

SHIFTS IN POPULATION SIZE

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The Czech Republic population development during the 90's took on a new nature. Post-November 89 political situation changes affected foreign migration as well, thus ever since 1991 immigrants numbers have remained higher than those of emigrants leaving the Czech Republic, the latter becoming an immigration country again after a long period. Until 1993 population total number grew due to natural movement and migration, since 1994 population has been declining due to natural movement. The latter induced reductions reached their peak in 1996 up to the value of 22 300 inhabitants, therefore in 2000, the Czech Republic lost 18 100 inhabitants and in 2001 natural movement decrease dwindled down to only 1 000 inhabitants less. Migration gains during 1994–2000 did not exceed 10 000 inhabitants yearly (1997 being an exceptional year with an immigration increase of up to 12 000 inhabitants) and since 1998 they have kept on decreasing down to 6 500 inhabitants in 2000. Therefore migration increases were merely able to slow down population decreases due to natural movement, consequently as of 1994, the Czech Republic population total number has been decreasing.

Due to total number of inhabitants having moved abroad incomplete registration, it is realistic to assume even much lower migration gains as compared to foreign migration statistics thus of greater total losses. 2001 preliminary migration data led to migration data questioning: according to them, there were 8 600 foreign immigrants. However, it is true that for the first time in 2001, migrants granted a longer than 90 days residency visa (see Chapter 7) were counted within the total number according to migration balance updated procedure, nevertheless this modification does not fully explain such a major turning point in migration balance.

During the 1994–2000 period, the Czech Republic lost 134 000 inhabitants due to natural movement, gained almost 67 000 due to migration, thus total decrease was of 67 500 inhabitants. During the 1991–1993 period, the Czech Republic registered a population increase of 29 400 inhabitants, including a natural movement increase of 9 300 inhabitants. According to balance, total population loss amounted to approximately 38 000 inhabitants between 1991 and 2001 censuses (partial 2001 balance is not included due to census date). According to 1991 census results and 2001 census preliminary ones, the Czech Republic lost more than 79 000 permanent inhabitants. Thus population decrease stemming from balance results shrank to approximately half of inter-censuses decrease. Since natural movement registration is very reliable, part of the error which occurred during the inter-censuses period can be attributed to migration incomplete registration. However available data do not provide sufficient information needed to determine population miscalculations revealed during census, and emigrants from the Czech Republic incomplete registration effect on detected population number discrepancies.

Figure 8.1: 1990–2001 Czech Republic Population Number Increases/Decreases

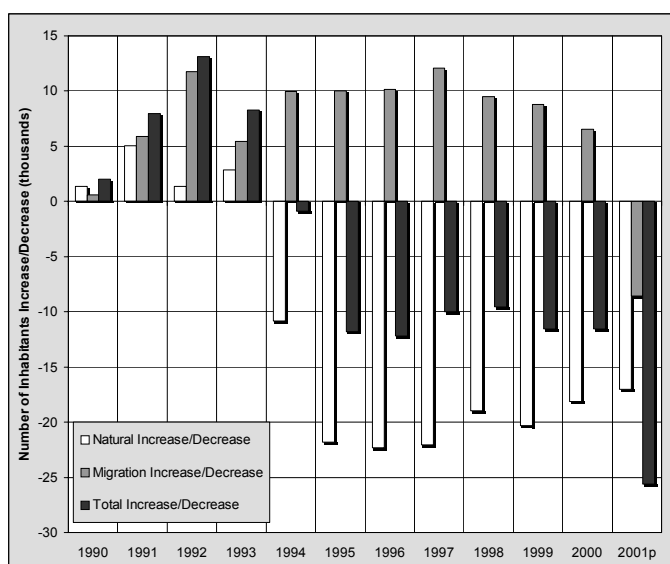


Table 8.1: Population Movement Balance

Population Increase/Decrease	1990–1992	1993	1994	1995	1996	1997	1998	1999	2000	2001p
	Increase/Decrease (thousands)									
Natural	7.8	2.8	-10.8	-21.8	-22.3	-22.1	-19.0	-20.3	-18.1	-17.0
Due to Migration	15.3	5.5	9.9	10.0	10.1	12.1	9.5	8.8	6.5	-8.6
Total	23.1	8.3	-0.9	-11.8	-12.2	-10.0	-9.5	-11.5	-11.6	-25.6
	Increase/Decrease per 1 000 Inhabitants									
Natural	0.2 ¹	0.3	-1.1	-2.1	-2.2	-2.1	-1.8	-2.0	-1.8	-1.7
Due to Migration	0.5 ¹	0.5	1.0	1.0	1.0	1.1	0.9	0.9	0.7	-0.8
Total	0.7 ¹	0.8	-0.1	-1.1	-1.2	-1.0	-0.9	-1.1	-1.1	-2.5
Population Size as of 31.12 (thousands)	10 326 ²	10 334	10 333	10 321	10 309	10 299	10 290	10 278	10 267	10 270 ³

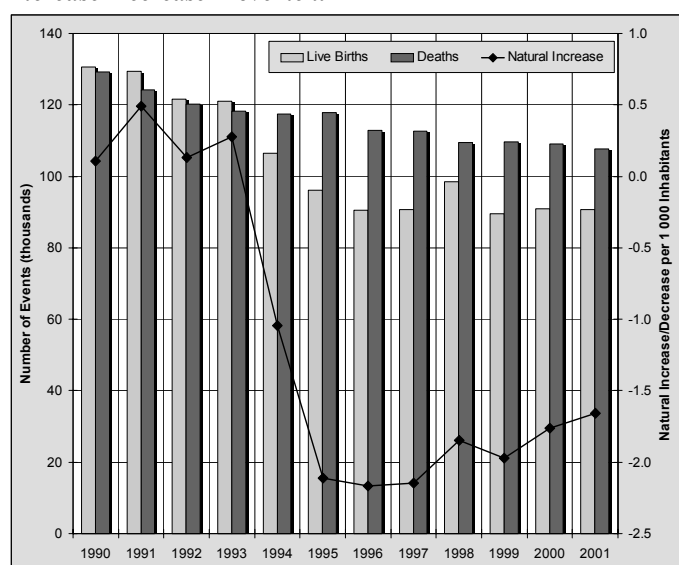
¹1990–1992 average.

²As of 31.12.1992.

³Population number as to 31.12.2001 according to balance based on 2001 census results, including long-term residence permit holders.

Since the 2001 census, the Czech Republic population total number includes long term resident foreigners i.e. holding a longer than 90 days visa. According to this updated methodology, the Czech Republic counted 10 292 900 inhabitants, including 69 900 long-term foreign residents, according to census preliminary results. Out of population total number, men represented 48.8%, in absolute numbers 5 019 400 inhabitants. In regard to 1991 population census, male population increase was of 19 400 and its representation within total population by 0.3 points while female population decreased by 28 700. The new population balance stems from total number reached according to census thus following a 17 000 inhabitants decrease due to natural movement and 8 600 inhabitants due to migration, by late 2001, the Czech Republic counted 10 269 700 inhabitants (preliminary results).

Figure 8.2: Number of Live Births, Deaths and Natural Increase/Decrease Movement



Due to ongoing social and economic transformation, occurring by means of growing regional differences as to population living standard, the nineties meant a significant migration trend shift leading to population distribution – first of all from a regional point of view, then from the point of view of municipalities size categories.

From a regional perspective focused on districts study, internal migration affected the most population total number modifications; international migration influence was definitely weaker (international migration being the most significant as to population balance merely in big cities). Population total increases primarily changed on the basis of migration trends shifts, changes within districts display, according to natural movement increase rates, were negligible. Districts order variability was evaluated on the basis of relative increases average values during three three-year periods; a high rate of dependence confirmed a rather flat lowering of relative increases due to natural movement, in contrast differences in migration total were significant even in comparison to average values, thus districts order was greatly modified in the 90's (established very low data correlation rate concerning period's beginning and end).

Table 8.2: Districts Order Shifts according to Natural Movement Intensity, Migration and Population Size Increase

Period	Spearman Correlation Coefficient for Population Relative Increases/Decreases					
	Natural Movement		Migration		Total	
	1992–1994	1995–1997	1992–1994	1995–1997	1992–1994	1995–1997
1995–1997	0.96	x	0.27	x	0.45	x
1998–2000	0.93	0.94	0.20	0.76	0.07	0.61

Particularly during the second half of the 90's migration increases variability grew whereas differences in increases values decreased due to natural movement. First and foremost the relation of districts number with population decreases due to natural movement unfavourably evolved. Whereas still during the 1992–1994 period, population merely decreased by half due to natural movement (in 1990 only in 34 districts), during the 1998–2000 one, decreases due to natural movement were indicated in more than nine tenths of districts (in 2000, only Český Krumlov and Sokolov districts had an increase higher than 1%, increases of additional seven districts did not even reach 1%).

During the 90's, specifically suburban districts in large cities areas ranked among districts with highest total increases, since due to suburban trends there is a population increase triggered by migration (Prague's influence is spread over a larger vicinity than its definite area); Teplice district higher increase can be explained by its convenient border location and economic attractiveness. These districts have primarily replaced border districts which in the early 90's (but earlier as well) indicated highest total increases due to natural movement higher increases, respectively districts which in the past had already attracted migration, having at the same time higher increases due to natural movement (České Budějovice).

The group of districts with population highest decreases was on the one hand made up of large towns, as well as districts with significant migration decreases due to economic problems (Karviná) and on the other hand, of districts with steep decreases due to natural movement, where migration balance was insignificant or whose population was decreasing due to moving as well (Jičín). In 2000, a mere 23 Czech Republic districts – compared to preceding year it was one district less – indicated a population total increase whereas in 1992, almost an identical number of districts (26) showed a population total decrease.

Table 8.3: Population Increases Variability in the Czech Republic Districts (increases per 1 000 mean population)

Indicator	Increase/Decrease due to Natural Movement			Increase/Decrease due to Migration			Total Increase/Decrease		
	1992–1994	1995–1997	1998–2000	1992–1994	1995–1997	1998–2000	1992–1994	1995–1997	1998–2000
Increases Variability									
Maximum	4.3	1.8	1.3	5.5	8.9	23.4	4.7	4.4	21.0
Minimum	-3.7	-5.0	-4.2	-4.2	-1.7	-2.6	-2.0	-4.7	-5.4
Range	8.0	6.7	5.5	9.6	10.6	26.1	6.7	9.1	26.4
Standard Deviation	1.9	1.5	1.2	2.2	1.7	3.5	1.3	1.7	3.2
Total	-0.2	-2.1	-1.9	0.9	1.0	0.8	0.7	-1.1	-1.1
Number of Districts									
Inhabitants Increase	37	7	6	50	64	54	49	22	25
Inhabitants Decrease	39	70	71	26	13	23	27	55	52
Total	76	77	77	76	77	77	76	77	77

Table 8.4: Districts with Population Extreme Relative Increases/Decreases

1992–1994		1995–1997		1998–2000	
Total Increase (in ‰) – Highest Values					
Český Krumlov	5.5	Praha-západ	4.4	Praha-západ	21.0
Tachov	5.2	Český Krumlov	3.5	Praha-východ	8.7
České Budějovice	5.2	Teplice	2.8	Teplice	4.1
Česká Lípa	5.1	Česká Lípa	2.7	Nymburk	3.8
Sokolov	4.2	Brno-venkov	2.1	Brno-venkov	3.7
Bruntál	4.0	Sokolov	1.8	Plzeň-jih	3.1
Total Decrease (in ‰) – Highest Values					
Rakovník	-4.2	Plzeň-město	-4.7	Hl. m. Praha	-5.4
Písek	-3.9	Hl. m. Praha	-3.9	Plzeň-město	-5.2
Nymburk	-3.4	Brno-město	-3.5	Karviná	-3.5
Strakonice	-3.3	Rokycany	-3.3	Jičín	-3.5
Benešov	-3.1	Benešov	-3.3	Brno-město	-3.5
Plzeň-jih	-3.0	Rakovník	-3.2	Ostrava-město	-3.2
Migration Increase (in ‰) – Highest Values					
Praha-západ	4.7	Praha-západ	8.9	Praha-západ	23.4
České Budějovice	4.1	Teplice	5.4	Praha-východ	11.8
Rokycany	3.6	Plzeň-jih	4.5	Nymburk	7.7
Olomouc	3.2	Praha-východ	4.3	Teplice	6.7
Brno-město	3.0	Beroun	4.2	Plzeň-jih	6.3
Kroměříž	2.7	Brno-venkov	4.1	Brno-venkov	5.4
Migration Decrease (in ‰) – Highest Values					
Ostrava-město	-2.0	Plzeň-město	-1.7	Plzeň-město	-2.6
Písek	-1.9	Cheb	-1.3	Bruntál	-2.3
Strakonice	-1.4	Bruntál	-1.1	Karviná	-2.2
Pelhřimov	-1.3	Žďár nad Sázavou	-1.0	Hl. m. Praha	-1.7
Rakovník	-1.2	Ostrava-město	-1.0	Ostrava-město	-1.6
Ústí nad Labem	-1.0	Jeseník (1996–1997)	-0.5	Sokolov	-1.6
Increase Due to Natural Movement (in ‰) – Highest Values					
Sokolov	4.3	Sokolov	1.8	Český Krumlov	1.3
Český Krumlov	4.1	Český Krumlov	1.6	Sokolov	1.3
Bruntál	3.8	Bruntál	1.1	Tachov	0.7
Tachov	3.5	Česká Lípa	1.0	Bruntál	0.7
Česká Lípa	3.4	Tachov	0.6	Česká Lípa	0.6
Žďár nad Sázavou	3.0	Žďár nad Sázavou	0.4	Chomutov	0.3
Decrease Due to Natural Movement (in ‰) – Highest Values					
Nymburk	-3.7	Nymburk	-5.0	Kolín	-4.2
Praha-západ	-3.5	Rokycany	-4.7	Nymburk	-3.9
Hl. m. Praha	-3.2	Plzeň-jih	-4.6	Jičín	-3.8
Kolín	-3.2	Hl. m. Praha	-4.6	Hl. m. Praha	-3.7
Rakovník	-3.0	Praha-západ	-4.5	Rakovník	-3.6
Beroun	-2.9	Beroun	-4.5	Rokycany	-3.6

**The Czech Republic
Population Number
Decrease Is More and
More Regionally
Differentiated**

The second aspect of population distribution evolution during the 90's was population total number increases according to municipalities' size groups. Once again migration played a decisive key role in population total number evolution turning point, since reproductive behaviour changes from mid 90's on, led to population decreases due to natural movement in municipalities of all size categories. First large towns (approximately 3% yearly) were the fastest to lose population due to natural movement, then the smallest municipalities of up to 500 inhabitants (4.6% in 1995, 3.5% in 2000). Yet municipalities of up to 2 000 inhabitants were losing 2–3% yearly due to higher mortality rate than natality. During the first half of the 90's, migration decreases gradually shifted from small municipalities to the category of more than 10 000 inhabitants towns while at first, towns of more than 50 000 inhabitants started to lose population as well as smaller towns later on. In 2000, even municipalities belonging to the 5 000–10 000 category were concerned too due to migration. Nevertheless rural, mainly suburban municipalities and smaller towns indicated migration gains. Since 1998, Prague's population has been shrinking and other towns numbering more than 100 000 inhabitants as well since 1996.

Table 8.5: Population Increases/Decreases according to Municipalities Size Groups

Municipality Size Group	Total Increase/Decrease per 1 000 Inhabitants									
	1990	1991	1992	1993	1995	1996	1997	1998	1999	2000
-500			-8.2	-8.6	-3.0	-3.2	-1.4	1.1	2.0	2.1
500-999	-6.0	-4.2	-1.5	0.9	0.6	1.7	2.7	3.0	3.8	4.0
1 000-1 999			2.1	2.9	1.7	0.9	2.6	4.3	3.8	4.5
2 000-4 999	-0.3	1.3	3.1	4.1	1.7	1.6	2.3	3.7	2.4	3.0
5 000-9 999	1.0	2.4	3.3	2.2	-0.2	0.3	0.0	-0.9	-1.0	-2.0
10 000-19 999	2.2	3.7	3.7	3.7	-0.6	-0.4	-0.9	-0.9	-2.0	-1.7
20 000-49 999	6.3	6.2	4.3	3.1	-1.3	-1.1	-2.4	-2.8	-3.4	-3.2
50 000-99 999	-1.1	1.4	1.5	-0.7	-2.7	-2.7	-2.7	-3.8	-4.6	-5.6
100 000+	1.8	0.9	1.2	-0.1	-3.2	-3.7	-3.8	-5.0	-4.5	-4.5

As compared to the past, population distribution trends according to municipalities size groups have completely changed throughout the 90's. Instead of the past population concentration into towns, suburban processes started to develop particularly during the second half of the 90's, triggering population total number increase in urban areas. The main cause is rooted in soaring differences between urban and rural housing availability and in the ill-functioning housing market, these tendencies being additionally supported by lack of new affordable housing construction and high differences in property prices in large cities and their urban areas. Urban areas (starting with Prague) became attractive not merely to big city dwellers but to those of their widespread vicinity as well, thus former migration from the countryside to towns (or from smaller towns to large towns) was replaced by migration to urban areas.

**Large Municipalities
and Towns in
Particular Indicate
Population Greatest
Decreases**

During the second half of the 90's and in 2000 as well, municipalities between 500 and 5 000 inhabitants held the best perspectives from the point of view of population increases. Gradually their total increases rose to 3–4.5%. However the growth of small towns of up to 5 000 inhabitants mainly concerned municipalities and smaller towns of large towns wide area, whereas population of municipalities located in difficult to reach regions, far from urban centres kept on shrinking. Population greatest total decreases (4–5%) can be observed since 1998 in towns of more than 50 000 inhabitants.

In 2000 among cities of more than 50 000 dwellers, only Kladno showed a limited total population increase (64 dwellers). České Budějovice, Most, Chomutov and Frýdek-Místek indicated a growth due to natural movement, in other towns population lessened due to natural movement. Besides Kladno, all towns of this size group were losing population due to moving. Out of Prague's 5 700 dwellers decrease, almost 4 000 were due to natural movement, out of Brno's 1 700 dwellers decrease, natural movement decrease concerned more than 1 000 dwellers, in Ostrava decrease due to moving took over natural movement decrease, total loss amounting to 1 200 dwellers. However at the end of 2000 resulting population numbers balance did not correspond in most cases to two months later 1.3.2001 census findings.

Within the frame of comparing the Czech Republic population number balance and lower administrative units (regions, districts, municipalities) in late 2000 to population number according to 2001 census results, sometimes significant data differences were obtained. An error gradually appeared in population balance number mainly due to population migration incomplete registration. Still, not even a population census can comprehensively count total population. The 2001 census was not an exception, permanent

resident population miscalculation is estimated of up to a few tens of thousands inhabitants by the Czech Statistical Office.

Table 8.6: Comparison of Districts and Large Towns Inhabitants Numbers according to Population Balance and 2001 Census Preliminary Results

Districts with a Definitely Lower Population Size according to Census as Opposed to 31.12.2001 Balance		Districts with a Definitely Higher Population Size according to Census as Opposed to 31.12.2001 Balance	
Town/District	Census-Balance Difference	District	Census-Balance Difference
Prague (capital)	-26 505	Nymburk	1 583
Brno (city)	-5 886	Prague-West (capital suburban district)	1 582
Teplice	-3 784	Prague-East (capital suburban district)	1 426
Ostrava (city)	-2 169	Jičín	870
Pilsen (city)	-1 401	České Budějovice	815
Karviná	-1 389	Mladá Boleslav	724
Karlovy Vary	-1 300	Opava	719
Most	-1 028	Benešov	553
Frýdek-Místek	-972	Písek	498
Nový Jičín	-865	Kolín	467

By comparing balance figures with districts permanent residents numbers according to 2001 census, it ensues that in 36 districts there were fewer than 100 (Prostějov) and even 26 500 inhabitants less (Prague), according to the 31.12.2000 population balance numbers (the 100 inhabitants limit was estimated regarding the needed tolerance stemming from a two-month difference between 31 December and census date). Census established lower inhabitants numbers were mainly detected in large towns and Ostrava industrial districts as well as in a few Krušné Mountains districts; in contrast, Prague urban area and Central Bohemia districts as well as a few Southern Bohemia districts and Opava district had more inhabitants than according to balance. If we take into account suburban trends, it seems that the most significant errors occur due to incomplete registration of newly moved in inhabitants into urban areas, respectively to some migrants reluctance to register their permanent residency change (thus the reverse situation of migrants' neglecting to call off their former residency); that is why the census included additional inhabitants in these municipalities whereas in large towns they were fewer. Apparently inhabitants lower estimated number in large cities depend on frequent attempt at evading census – people live there in greater anonymity and more frequently consider census as a major infringement upon their privacy. The institution of so-called “second residences” is perhaps also reflected in census results, concerning certain urban population strata who spend part of the year in their country residences, and who may have declared the latter as their main residences.

Resident Inhabitants Real Number Is Distorted due to Incomplete Registration of 1991–2001 Migration and Miscalculation during 1991 and 2001 Censuses

Table 8.7: Population Distribution according to Municipalities Size Groups

Municipality Size Group	Share of Population in Size Group (%)			Municipality in Appropriate Size Group (%)		Population Distribution Difference	
	Census		Balance 31.12. 2000	Census		Census 2001–1991	Census 2001– Balance 2000
	1991	2001p		1991	2001		
-500	7.8	8.4	8.3	3 283	3 691	0.6	0.1
500–999	8.3	8.7	8.5	1 224	1 283	0.4	0.2
1 000–1 999	8.6	8.8	8.8	647	657	0.2	0.0
2 000–4 999	10.2	11.0	10.8	347	367	0.8	0.2
5 000–9 999	8.8	8.6	9.0	131	128	-0.2	-0.4
10 000–19 999	9.7	9.3	9.3	71	68	-0.4	0.0
20 000–49 999	11.6	12.1	12.2	41	42	0.5	-0.1
50 000–99 999	11.4	12.1	12.1	17	17	0.7	0.0
100 000+	23.4	20.9	21.0	7	5	-2.5	-0.1
Total Number of Inhabitants (thousands)	10 302.2	10 292.9	10 266.5	x	x	x	x
Total Number of Municipalities	x	x	x	5 768	6 258	x	x

Within the group of cities, census greatest miscalculations as opposed to balances occurred in large cities and in the Sub-Krušné Mountains region (Prague, Brno, Ostrava, Pilsen, Teplice, Most, Sokolov, Karlovy Vary). A relatively important population miscalculation concerning Jihlava, Hradec Králové and Kladno (500–700 town-dwellers) cannot be adequately explained; it could have been either a census evading or a non functional reverse registration of permanent residence change by district administration during the inter-censuses period. On the contrary, significantly higher population numbers were reached in Opava during the census, possibly indicating inadequacy of migration registration, actually former residences non functioning reverse calling off registration. Since these are census preliminary results, one should not overrate mentioned differences.

Evolution of population number, living in municipalities of diverse size groups according to census and balance data concerning 2000, partially reinforces the assertion of supporting the percentage of inhabitants living in municipalities of up to 5 000 inhabitants: however this percentage rose by only 2 points, from 35 to 37%. Similarly, the percentage of inhabitants living in towns counting more than 50 000 inhabitants decreased as well (from 35 to 33%). Yet data are distorted due to municipalities changing number and their endemic discrepancies, furthermore one has to consider inadequacies stemming from possible oscillations at size groups limits, if municipalities due to population slight number changes transfer from one group to another. Thus one may mention suburban trends in relation to Czech large cities, but there are no breaking through trends shifts as to residence concentration so far. Population distribution comparison according to municipalities size groups established on the basis of 2001 census and ongoing balances has showed mere negligible differences.