Lessons from almost 300 years of vital statistics and civil registration in Norway

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Two years ago I had finished writing a book about the Norwegian population, but wasn't quite satisfied with the opening paragraph. I got the idea to devote the first sentences to a table called *The movement of the population*, published by Statistics Norway in 1914, with figures from 1735. That resulted, to my surprise, to a necessary rewriting of the whole book! It became obvious that the only relevant way to portray the development of the population of Norway was through a history or a biography of this table. Tables have a history, and their history is very interesting.

So many thanks for coming to this side event and to the organizers for giving me the opportunity to present a very short version of the history of the vital statistics of Norway.

	Mou	vement de	la popul	lation de	1735 à 1	912.					
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"The movement of the population 1735-1912" was published to celebrate the 100 years anniversary of the Norwegian constitution. That was indeed a good idea, two pillars in every modern state, an electoral roll and a tax census, is made possible by a relevant and trustworthy civil registration. The obvious and conspicuous strength of the table is of course the length of the time series; it now extends through no less than four centuries, from 1735 to 2016.

Only the columns for births and deaths are filled inn in for the first years, the columns for marriages, stillborn, born outside marriages and emigration, are dotted. The column for immigration didn't even exist in 1914; figures for immigration were first available from 1951 so the table was far from perfect.

The other figures than births and deaths from 1735 are calculations. To give the birth and the death rate a figure for the whole population is necessary. The text between the table title and the head of table, explain how that was done, the method cannot be recommended, and the population figures for the first years are disputed, to say it diplomatically.

With the censuses from 1769 and 1801 and the vital statistics, the yearly population was estimated. It was taken for granted that the figures were more or less correct, and the observed discrepancy between the census figures and the vital statistics were assumed to come from the lack of figures for immigration and emigration.

Notice the figure for deaths from 1742, 42 243, it gives a death rate of 69 per thousand, and indicates that close to 7 per cent of the Norwegian population died this year. In 1966 a British historian was able to correct this figure, the death figure from one district had one zero too many, 1 400 had been recorded as 14 000. The researcher that discovered this, Michael Drake, came to study the early Norwegian figures because they could illustrate the population development in a north European country before the industrial revolution.

He wasn't the first Englishman to come to Norway to study the population development. Thomas Malthus also visited Norway, in the summer of 1799. Malthus obtained some figures for births and deaths, and based his chapter on Norway in the 1803 edition of *An Essay on Population* on the Norwegian vital statistics, which he in fact misinterpreted. Nevertheless he was impressed by the high marriage age, which kept the number of births inside marriage low. Other sides of the Norwegian society didn't impressed him as much, in the capital, named Christiania at that time after a Danish king, he had great difficulties of buying a pound of beef, he wrote in his diary, because there wasn't a functioning commodity market. The Norwegians lived in a pastoral stage, he also noted, they followed their livestock.

I shall explain why and how Norway has figures for births and deaths from 1735, and also why it took about 180 years from the time the figures were collected to the construction of the table as we know it today. But allow me first to linger a while with this first modern table based on the vital statistics.

The table from 1914 had three predecessors, and after 1914 the table has been updated in its full length only four times. Most recently in 2014, in the book I mentioned in the start, to celebrate the 200 years anniversary of the Norwegian constitution. In 2035, Statistics Norway can celebrate the table itself; it will then cover an incredible period of 300 years! Not even mighty nations and empires such as France, Great Britain, China or India, which are so rich in memorials and items from the distant past, have such a long time series detailing the movement of the population.

For a number of reasons Norway lacks impressive relics from ancient times, such as medieval villages, castles and monumental buildings that represent the power and wealth of barons and noblemen, religious institutions and the state. The official and monumental buildings in Norway are small copies of bigger and more impressive originals in found in other European countries. We have, however, this table with figures from 1735. Don't misunderstand my point; even if Norway had been rich on

historical places, the table would still have been a cultural heritage of the very first rank. In fact, Statistics Norway is alone in the world to possess such a table and we have at least tried to take care of it.

This last formulation requires an explanation. Statistics Norway, it must be admitted, has not always been fully aware of this treasure among its possessions and there are some examples of rather sloppy handling of this table. How is that to be explained? Strange as it may seem, the table as a form, has, even in an official statistical institution, had a low status from time to time. Statistics Norway can't claim to be totally free of a dash of intellectual snobbism. The plain table with basic figures is too simple. Typically what counts are complicated metrics, construction of coefficients and formulas, making of index numbers and so on, not a simple table of figures.

Every extra calculation of figures in a table interprets the data in a particular direction. Such clarifications, always interesting and of course necessary, reduce the possible numbers of interpretations of the original figures. Extensive use of metrics and calculations make the result often difficult to understand and tend to exclude a broader public to take part in the discussion about population questions. Gain in intention depth often causes loss in transparency and allow only experts to understand and debate the results.

The plain and simple table has some outstanding qualities. It is transparent and including. The main criterion for a successful table is that it shall be self-explanatory with only the help of the descriptive title of the table and the names of the columns and rows. That is not an easy task, but when it succeeds, it demonstrates that the plain and clean table form is a wonderful way both to store and to spread knowledge.

As you see, I am trying to establish a partisan movement for the table with basic figures from the vital statistics that refers as directly as possible to the reality. Why? Because different and specific aspects about the population stand high on the political agenda in every nation of the world. The primary figures that constitute the movement of the population give the necessary, but of course not, the sufficient condition, to understand and to solve them. The greater part of the public opinion, which can understand the discussion of these matters, the better conditions are shaped for trying to solve whatever the problem is.

This reasoning ought to be expanded in another important, but often neglected direction. The movement of the population, the vital statistics, in general terms, not only the exceptional Norwegian time series, but also a table with figures for five, ten or fifteen years, is not only a part of the history of statistics, but of the cultural and intellectual environment of a country. It should be treated also as an attempt to understand the world we live in, side by side with other attempts to do that in science, in literature and in other cultural forms and means. The vital statistics is a manifestation of political, social and cultural life in a broad sense; it establishes the foundation for nation- or state-building. These very important aspects are however often forgotten both by statistical institutions and by historians of culture and intellectual life. The efforts to understand the population development through the vital statistics and the censuses had to be associated and integrated in the general history. The main reason why this so seldom happens is a strong tendency for statisticians to lean towards hard sciences like mathematics and economics, and that researchers from the humanities haven't dared to go into the world of figures. It can't be ignored that official

statistics often are surrounded by bureaucratic fog and jargon which in effect not exactly invite humanists and cultural historians to study vital statistics.

It's a pity because this cultural approach to the table and the system of civil registration behind it, offers a wide and necessary invitation to the essential discussion about which way this system has been and can be used for illegal control of the citizens, but it also shows a way the state can secure citizens' rights. A vibrant and engaged public exchange of opinions about the benefits and the dangers of civil registration is, ultimately, the only way that could establish the vital statistics as a guarantee for civil rights and to prevent the misuse of civil registration.

For Statistics Norway it is important to know the history of the table from 1914. Why? To understand and interpret the figures we have to know how they were produced. Furthermore, not only relics and old things have to be restored from time to time, also old figures have to be cared about, the table should be treated like a treasure, as the most costly museum item, and even though it belongs in a museum, it is different from most museum pieces. Norway has a couple of Viking ships from about year 800, very impressive and beautiful indeed, but these ships teach us nothing about today's shipping. With the table it's different; it tells us what's going on in the world. I dare also to claim: Without the table it's impossible to understand what's going on in the world. Even our self can we first learn fully to know after intense and hard work with this table. Such intense studies are challenging, but the reward is formidable.

So far so good, why does Norway have figures for births and deaths from 1735? Well, in fact we don't have that, we have figures for baptisms and funerals. From 1735 the parish priests should report the ecclesial actions to the diocese to which they belonged. And the four Norwegian dioceses, reported the figures to Copenhagen since at that time Norway was part of the Kingdom of Denmark. Why the king in Denmark ordered this from 1735 is unknown. Considering all the problems getting the right figures to the right moment it's astonishing that the collecting of the vital statics continued year after year.

The parish priests were from about 1690 required to keep a parish registers. The purpose was to control both that the parish priests did their duty and that the people followed the official faith. Because there was a state religion, a protestant church everybody belonged to, the register of baptisms and funerals, could be considered as a register for births and deaths, but that's disputed.

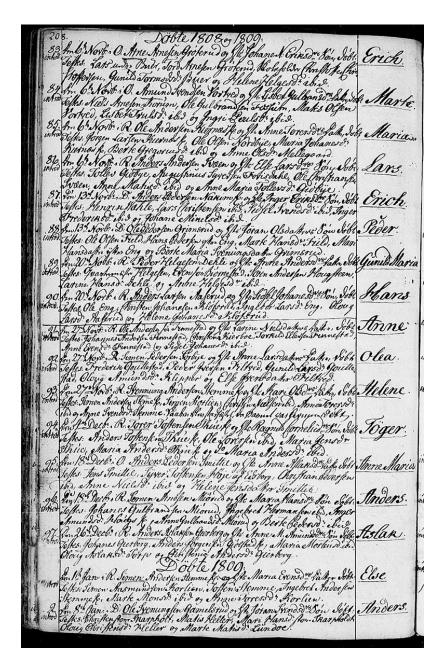
The registration of stillbirths poses only one of several major problems, many parish priests counted stillbirths only as deaths. Therefore the first director in Statistics Norway reduced the number of deaths when he tried to construct a table for the movement of the population in 1869. Later research showed that this was incorrect, and the figures were changed again. First after about 100 years after 1735 did the parish priests get forms with definitions on what to report, but some of the definitions led to increased confusion about how and what to register. As a result of an unclear definition many parish priests counted children born outside marriage twice. Not even the year was the same period. In some part of the country it began in the first week in December, in other parts it went from high summer to high summer. When reports from parishes came too late or not at all to the dioceses, the bishop used last year's report.

Due to a drawing from 1809 made by the 14 year old son of the parish priest of Rakkestad in the southeastern part of Norway, it's possible to take a closer look into a parish priest's office.



The room is cozy and pleasant, but it's easy to see that Thorkild Aschehoug is busy working at his desk, he hasn't even had the time to take his hat off. Maybe he has exceeded the deadline for posting last year's list over births and deaths. Note also the most voluminous books in the shelves. That's not Bibles or religious books, but protocols or records for these registrations. It's astounding how little the office is characterized by religious fixtures.

The actual protocol from 1809 that the parish priest of Rakkestad may be updating in the very moment he was portrayed by his son still exists.

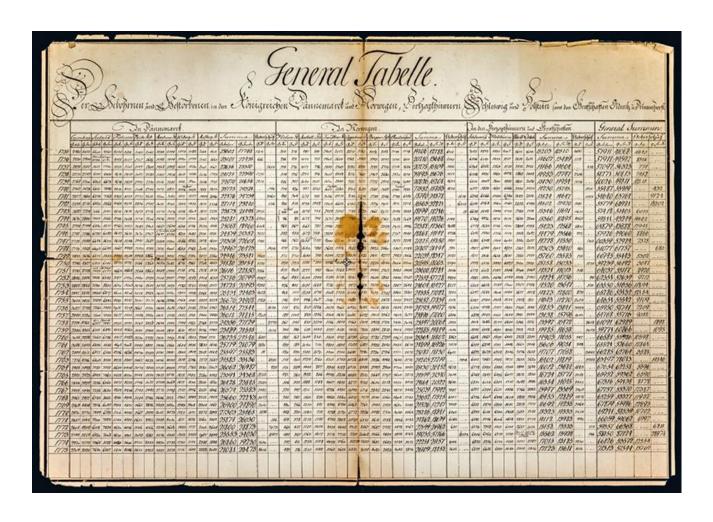


This page shows the baptisms for the end of 1808 and the beginning of 1809. It was from pages like these that the parish priests summed up baptisms and funerals and reported them to the diocese.

1809 was very special for the diocese to which our parish priest belonged. The number of births were almost 7 500 but the number of deaths was almost three times as high, 21 000. It was one of the worst years in the history of Norway.

The church book was a precursor of a civil municipality register which was established after the Second World War in Norway. The civil municipality register was a precursor of the national population register which was established between 1964 and 1966 in Norway. The foundation for this register was the population census from 1960. Every person registered in this census got an 11 digit personal identification number. There were of course many minor steps and transitional forms from 1735 when the registration was done by the church alone and to a fully civil registration system from 1964. With this register and the personal identification number, a traditional census was in theory unnecessary.

Why did it take about 180 years before the vital statistics from 1735 was presented in a table? In fact the first known table is handwritten from about 1778, and gives figures for the kingdom of Denmark that also included Norway, Iceland and some German duchies. We don't know why this table was made and what it was used for.



The next table was printed and published in 1786 in a book and covered the 50 years from 1735 to 1784. In both of these tables the figures for the two Icelandic dioceses were included in the Norwegian figures. The full meaning of this wasn't discovered until 1966.

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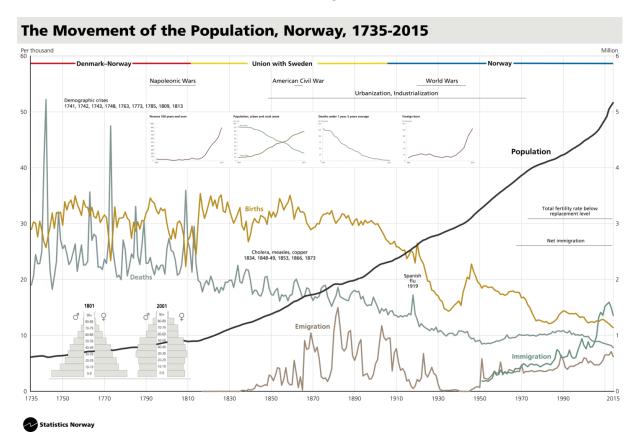
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1756-1765	54,624	164,798	221,825	655,986			7,026		185,284	596,551	+ 51,831	+ 117,308		
1766-1775	60,560	174,551	224,695	697,661		22,667	7,114	20,286	192,845	554,207	+ 28,980	+ 59,385	113564	
1776-1785	60,560								177,205		+ 47,490	+ 143,454	115021	
1786-1795	00 150	188,916	251,424	729,204		33,632	7,961	20,870	185,380	578,726	+ 66,044	+ 150,478	128781	
1796-1805	69,158	188,010	263,691	754,478	10.000	41,684	8,816	20,296	202,243	588,668	+ 61,448	+ 165,805	134799	
1806-1815	68,518	212,058	248,654	766,640	16,380	50,051	7,169	19,395	226,696	706,891	+ 21,958	+ 59,749	127060	
1816-1825	85,664	226,812	325,161	904,802	24,806	63,044	9,790	23,397	184,157	606,238	+141,004	+ 298,564	166304	
1826-1885	84,792	220,390	361,261	951,530	24,725	60,910	12,160	27,343	220,754	695,108	+140,507	+ 256,422	185475	
1836-1845	91,271	221,871	367,024	975,778	27,743	74,782	14,666	30,826	236,110	672,880	+130,914	+ 302,898	188214	
1846-1855	109,005	260,060	445,378	1,090,065	39,049	99,348	18,931	35,791	253,261	740,180	+192,117	+ 349,885	227832	
1856-1865	115,196	289,110	520,548	1,290,938	42,147	116,143	22,105	48,541	283,135	799,116	+237,413	+ 491,822	267684	2528
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1751-1755		88,887	113,635	339,038		- 1	3,598		88,747	240,009	+ 29,888	+ 99,029	58,167	
1756-1760		83,590	117,245	825,173			3,710		85,042	264,301	+ 32,208	+ 60,872	60,029	
1761-1765		85,816	119,870	337,683			3,795		100,242	281,247	+ 19,628	+ 56,486	61,359	
1766-1770		82,997	117,148	389,650	- 2		3,711		88,111	263,811	+ 29,032	+ 75,839	59,971	
1771-1775	26,848	81,796	104.682	316,286	3,791		3,315		104,734	332,740		÷ 16,454	53,593	
1776-1780	30,483	91,552	112,079	357,972	5,672	11.150	3,548	10,486	82,890	256,872	÷ 52 + 29,189	+ 101,100	57,379	
1781-1785	30,400	82,999	112,616	339,689	0,012	11,150	3,566		94,315	297,835			57,642	
	0.	87,217				11,517	3,727	9,750	96,891		+ 18,301		60,262	
1786-1790	- 8		117,686	350,119		15,822		9,535		298,450	+ 20,795	+ 51,669		
1791-1795	04.000	101,699	133,738	379,085	-	18,310	4,234	11,335	88,489	280,276	+ 45,249	+ 98,809	68,469	
1796-1800	34,682	98,480	135,593	381,242		19,856	4,295	10,800	92,095	298,492	+ 48,498	+ 82,750	69,412	
1801-1805	84,471	94,580	128,098	878,231	7,623	21,828	4,521	. 9,496	110,148	290,176	+ 17,950	+ 88,055	65,387	
1806-1810	81,389	103,810	123,977	367,602	8,072	28,585	8,799	9,255	119,764	379,496		÷ 11,894	63,503	
1811-1815	37,129	108,248	124,677	399,088	8,308	26,466	3,370	10,140	106,932	327,395	+ 17,745	+ 71,648	63,557	
1816-1820	41,588	107.951	154,507	426,270	12,136	29,478	4,645	10,737	89,469	311,644	+ 65,038	+ 114,626	79,172	
1821-1825	44,081	118,861	170,654	478,532	12,670	23,566	5,145	12,660	94,688	294,594		+ 183,938	87,182	
1826-1830	42,559	110,107	179,898	474,731	12,614	29,621	5,786	12,967	103,835	355,777		+ 118,954	92,176	
1831-1835	42,233	110,283	181,363	476,799	12,111	31,289	6,424	14,376	116,919	889,881		+137,468	93,299	
1886-1840	40,681	104,777	171,623	471,561	12,012	32,429	6,720	14,685	123,945	347,226		+ 124,335	88,066	
1841-1845	50,590	116,594	195,401	504,217	15,781	42,303	7,946	16,141	112,165	325,654	+ 83,236		100148	
1846-1850	52,506	129,726	210,887	524,109	17,479	46,570	8,841	17,002	128,489	354,957		+ 169,152	108088	
1851-1855	56,499	130,334	234,491	565,956	21,570	52,778	10,090	18,789	124,772	385,223	+.109,719	+ 180,733	119744	11474
1856-1860	58,264	146,808	257,810	628,237	21,490	55,233	11,208	21,053	130,306	404,829	+127,504		132635	
1861-1865	56,932	142,302	262,738	662,701	20,657	60,910	10,897	22,488	152,829	394,287	+ 109,999	+ 268,414	185049	12768
. I de enkelte Aar.					1			0.00					1	
1736			19,590			2.00	620		13,048	- 1	+ 6,542		10,028	9,56
1737		5.50	19,651	- 1			624		15,785		+ 3,866		10,060	9,59
1738		120	18,623	- 1		-	590	- 2	15,086	- 1	+ 3,587		9,538	9,09
1739			20,185				641	(20)	15,565	5500	+ 4,620	321	10,334	9,85
1740	1 23	94.0	19,320				612	-	17,241	-	+ 2,079	1000	9,890	
1741			18,165	10	•	•	575	•	23,803	150	÷ 5,638	•	9,299	8,86
1742			17,188	- 1		- 1	544	-	48,710	•	÷ 26,522		8,799	8,88
1743	•	-	17,989	-	-	-	570		18,046	-	÷ 57		9,210	8,77
1744		-	18,969			-	601	3.0	13,825		+ 5,144		9,711	9,25
1745			20,732		•		656		11,704		+ 9,028		10,613	10,11
1746	1 12	2	18,290				578	- 2	18,564		+ 4,726		9,362	8,92
1747			21,155				670		15,180		+ 5,975	- 1	10,827	
1748			21,176				671		20,823	200	+ 353		10,888	
1749		15,046	21,362	59,483			677		17,640	49,516	0.5	+ 9,967	10,936	
1750		16,374	19,963	2.614(22.22)			632	-		47,622			10,986	
1100	100000	10,014	10,000	23,011		1000000		- 31 P	17,373	91,022 36—1784 af		+ 16,889	10,220	0,14

Do for Norge meddelte Opgaver er for Aarene 1801—1865 uddragne af det officielle Tabelverk, for Aarene 1736—1784 af de i "Materialien zur Statistik der Danischen Staaten" (Piensburg 1788) meddelte Tabeller, for Aarene 1785—1799 af "Tableau des États Danois par I. P. Catteau" (Paris 1803) Tome II. pag. 96 & 98. Ved disse Opgaver for Aarene 1736—1799 er imidlertid at mærke, at der i Originaltabellerne fikke er skjelent mellem Fødte af Mandkjon og skvindkjon, samt at de Dødfødte — ofter al Sandsynlighed — ere blevne medregnede baade blandt de Podte og blandt de Døde. For at bringe Opgaverne i Overensstemmelse med de for Aarene 1801—1865 meddelte, er Antallet af Dødfødte sawelsom af levende fødte Mandkjøn og Kvindkjøn ovenfor beregnet efter de for Aarene 1801—1835 gjældende Forhold. — De for Sverige meddelte Opgaver er uddragne af det svenske officielle Tabelværk.

25 6

In 1869 these two tables were followed up, but that was the last attempt before our table from 1914.

Let's have a look at the visualized form of the Norwegian vital statistics.



At the top of the picture, political conditions in Scandinavia and the rest of world are marked. The yellow line is the birth rate, the grey the death rate and so on for immigration and emigration. The black curve is the population. The demographical crises, years with more deaths than births ends in 1812; please do notice the change from high to low rates of births and deaths remembering what the French economist, Adolphe Landry declared in 1933, the main task for the demography is to explain the demographic revolution; the shift from high to low rates for births and deaths.

So how do we do that nowadays? It was controversial to register births and deaths in Norway when parish registers were introduced around 1700. God, not man, should keep the records of the dead and the living. So when the parish priests were required to hold a register, it was met with resistance. It was considered as a kind of blasphemy. The manmade counting represented a change in norms and culture. This change is strongly connected with the enlightenment, the French revolution, the American declaration of independence and the ability of the population to read.

Furthermore, when the information about births and deaths were figures in a table they got a meaning that exceeded the original rationale for collecting them. It was easy to see that the number of births and deaths varied from year to year. How was that to be explained? Was the reason inaccurate reporting? In this way the simple table is not only a tool to improve the quality of the figures, but of the description and understanding of the world. If the variety of the figures reflects the reality, the question was of course how to explain the increases and the decreases. From the variety in death figures from district to district and from year to year created an imperative for reducing the deaths, in this way new norms rose and became an important tool for making the world a better place.

These norms opposed the faith in predestination, that everything, also diseases and deaths, was decided once and forever, and that there was nothing to be done about it. The faith in predestination was especially strong among the fishermen in the north of Norway until the 1850s. When the fishermen were asked why they didn't learn to swim, they said that swimming just prolonged the pain and that everything was decided before. To learn to swim was a kind of distrust in the power of God. The result was that thousands drowned. But this is one of very few norms that kept the death rate high.

It looks like the death rate falls considerably after the Napoleonic wars, but after that the death rate falls slowly but continually until the 1930s. If the death rate changes slowly how could a sudden and sharp fall be explained? It's hard to believe in such sudden and strong changes in the death rate as observed in 1814. The fall in the death rate actually started in the 1790s but this is masked by the war conditions which drew up the death rate. When the state of war was over it looks like a sharp fall.

According to several demographers the only thing that needed an explanation was the fall in the death rate, the rest of the movement of the curves is given as a chain reaction: when the death rate falls, the population gets younger. The fall in the death rate is mainly caused by a fall in death rates for children, at the end of the 19th century most births resulted in a child that grew up, and the number of children in every family increased. The parents had to work harder to take care of all the children, but by reducing the number of births, they could improve their living standard and take better care of their children. That resulted in the reduction of the birth rate, the consequence then is that the population gets older.

The unchanged birth rate from 1735 to 1900, for 165 years, is nevertheless remarkable, how is such a thing possible! There were few and weak norms that kept the death rate high, the opposite is the case with the birth rate, through hundreds and hundreds of years all religious doctrines, moral codes, laws, norms, customs and culture related to marriage and family should ensure a high birth rate. All these norms were therefore hard to change. It took the forces of enlightenment 100 years to break them in Norway.

It's also worth noting that in the period with high population increase, the emigration is substantial. We used to think that high emigration from Norway was caused by poverty. But the higher emigration from Norway than from most other European countries can have an alternative explanation. The death rate in Norway was the lowest in Europe. Why? Because the people lived in rural areas, that protected children from infectious diseases. The fast population growth this caused, not poverty, could explain the higher Norwegian emigration. Let me add that the emigration figures are inaccurate, besides the registered emigration, there was an unregistered emigration. Norway had a large merchant navy, and seamen deserted the ships as soon as they docked in New York or Quebec. In this way the emigrating young men saved the expensive ticket for an emigration ship. Another reason was that the low wages and extremely bad treatment on the Norwegian ships, made many decide to jump off in America. Some years this unregistered emigration could be up to 10 percent of the registered emigration.

The immigration to Norway was in some years before and under the First World War and in the 1930s greater than the emigration. After 1967 Norway has turned to be a net immigration country, and after the beginning of the 1970s the total fertility rate has been under replacement level.

Norway has even though it isn't shown by curves been a net immigrant country for more years than it was an net emigrant country. In the Norwegian mind and identity however we are still an emigrant country. It is a fundamental shift for the whole of Europe to be a continent that populated areas around the globe to be a continent that receive immigrants.

Anyway, due to the low birth rate, the increase in population in the latest decades is due to aging and immigration. As clearly demonstrated by the curves for rates of births and deaths, immigration and emigration, contribute equally or even more to the population development of Norway than births and deaths. This is of course a fundamental change that has consequences for the vital statistics and civil registration system. Note that the underlying tendency to a very slow population increase due to total fertility rate below reproduction level is masked by the increase in net immigration since the 1990s.

As an extension of that observation it is impossible not to mention that two American social scientists, Kingsley Davies and Frank Notestein in 1945 wrote that for the first time the world population development could be considered as one single entity, and therefore they took the initiative to establish an office for population statistics in the secretariat of the United Nations. Frank Notestein was the first leader of this office. The truth that the world population development can be seen as a single entity is even more overwhelming today.

As exemplified by the curves, when the population in a country increases, there's a period with emigration. What would the consequences have been for Norway, or for Europe, if the possibility for emigration hadn't existed? Would violent conflicts and social problems have been even more widespread? That the European emigration to different parts of the world, the whitening of the world, on the other hand created violent oppression and expulsion of the native born is not the topic here. But, is the lack of areas to go to today a reason for why population increases easily cause civil wars and conflicts that creates refugees?

Such situations create thousands of human beings on their way to safer places. We have learned from earlier and from the current refugee/migration crisis that if persons don't belong to a state that's willing to, and has the means to guarantee their civil rights, they are exposed to all kinds of suppression and humiliation. It's dangerous to be a refugee. Could a civil registration of refugees improve their situation, could that be the contribution of statisticians on the way to guarantee them civil rights? I do think so, a state or an organization responsible for the registration, would more or less automatically also be responsible for them in the same way that the register of deaths led to reducing of the number of deaths.

The table stores knowledge, but it is also a tool to develop new knowledge and ideas. Such a table is therefore certainly a treasure, a cultural heritage of first rank. And as you all are aware of, the illustration of the Norwegian vital statistics isn't only relevant for Norway. It is valid as a more or less exact description of the population development in every country, and we are of course happy to share our table with the rest of the world.

It's tempting therefore at the very end to declare that next to The Pyramids of Egypt we mention the Chinese wall, next to St. Peters Cathedral in Rome, Angkor Wat in Cambodia. Next to the changes in the population from 1735 to this day, we mention nothing.