

## **Migration and the Historical Population Register of Norway**

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The Historical Population Register (HPR) for Norway gives rise to new research opportunities on a large array of topics spanning medicine, social sciences and humanities. This introductory article outlines the contents of the register and what periods it can cover on the basis of the available source material. Another focus is its use, particularly with respect to the study of geographic mobility and, for the sake of context the article provides a brief overview of Norway's migration history. Besides historical geography, the most relevant scholarly fields are epidemiology, genetics, public health, demography, economics, history, sociology, onomatology and dialectology. The construction of the register involves important challenges within the field of informatics. The HPR has developed software to link data files with fuzzy, nominative information and develops advanced procedures for more efficient extraction of information from hand written sources, and is building a wiki-like information system for cooperation among genealogists via the Internet for the open part of the register.

The register will include 9.7 million people, based on 37.5 million entries from censuses and church records, which have virtually complete coverage. Record linkage rates will vary by period and region from two-thirds to over 90 percent of the records, and with national coverage overall linkage rates should come close to or exceed 90 percent. An important advantage of covering the entire population is that this will improve HPR quality because researchers currently have better long term grip on emigration than internal migration and in-migration to Norway. Therefore, a national register will have fewer incomplete life courses than the current local databases which miss many migrants who cross parish and municipality borders. Thus, linkage reliability will especially increase among domestic migrants. Our emigration registers have been transcribed and will be integrated into the population register. Given the necessary resources, we are confident that in a decade Norway will be the first country to provide an integrated HPR covering a population significantly larger than the Icelandic – and on a non-commercial basis. The intensive migration inside and out of Norway (plus many returning) is a specific reason why we need a national register; otherwise migrants will be underrepresented in the database together with regions having unique characteristics. Thus, the HPR will open up a new window on the implications of national and international population flows for Norway. The article by Holden and Boudko in this special issue explains the register itself in further detail.

### **National and international migration history.**

Most of Norway's long-term immigration, emigration and domestic migration history is shrouded in darkness, and before the 17<sup>th</sup> century, the HPR has little to offer in the way of new insights. We shall not here carry on the discussions about to what extent the country was originally settled from the south or from the north-east, or whether the indigenous group of Sami people came from the east or retreated northward with the ice. In connection with the expansion of the Norwegian "imperialism" in the medieval period of the Vikings, the likely half million inhabitants in Norway built colonies around the North Sea, in Iceland, in Greenland and in America. The two latter settlements were small and likely died out – some may have returned to Scandinavia or Iceland. In the 14<sup>th</sup> century, the black plague and adverse climate reduced the size of the population; we can speculate about one hundred to two hundred thousand persons in a union with Denmark from 1380. Before the farm tax lists of 1647 there are only fragmentary sources listing the inhabitants of Norway (Fladby and Winge 1991). The steadily tighter union entailed an influx of administrators and other specialists to the country, as can be seen from the surnames originating in Denmark and the German realm listed in the

nominative 1801 census (Sogner and Thorvaldsen 2001). The first church book was started in 1623 in Andebu parish in Vestfold province, and from then on the keeping of church records spread to new parishes, especially after their keeping became obligatory from the mid-1680s. Even if combined with the male censuses of the 1660s and 1703, their usefulness for migration research is limited - it was only from the 1840s that the birthplace variable was introduced with the Belgian censuses. During the union with Sweden from 1814 to 1905 it was unfortunate that Norway did not adopt their longitudinal catechismal church registers, but rather prolonged the Danish system. The number of immigrants born in Sweden peaked at 50 000 according to the 1900 census. In the north, many ethnic Fins born in Finland or Sweden immigrated during the 19<sup>th</sup> century, most intensively during the hunger years of the 1860s (Niemi 2003). When we for the first time get precise birthplace information in the 1865 nominative census, only 1.4 % of the population was born abroad, which increased to 3.2 % by 1900 due to the Swedish arrivals. During World War II there were up to half a million German troops in Norway, in addition to primarily Russian and Yugoslav prisoners of war, most of whom were soon repatriated. However, more than 10 % of the about 140 000 POWs died here, and it is macabre fact that the authorities centralized the corpses into a new graveyard, allegedly for contra espionage reasons (Neerland Soleim 2016). With the exception of the Fins and the Sami, Norway was a homogenous country ethnically, until the guest workers started to arrive from particularly Pakistan in the 1960s. It is a fortunate circumstance that Central Population Register was established in 1964 and covers this period of more intensive immigration – although there is under-registration. In February 2017 there are about 700 000 immigrants in Norway or about 13 % of the population.<sup>i</sup>

The first documented significant emigration was to the Netherlands, mainly during the 17<sup>th</sup> and 18<sup>th</sup> century, which has been researched particularly in the marriage registers of Amsterdam, containing 11 869 brides and grooms from Norway (Sogner 2012, Sommerseth, Ekamper et al. 2016). Then, the late nineteenth and early twentieth century saw geographic population movements on an unprecedented scale. The massive emigration to America profoundly shaped both the receiving and contributing countries. From the “official” start of Norwegian emigration to the US in 1825 until the end of the Civil War, the stream of migrants was a mere trickle – by 1850 only about 18 000 immigrants from Norway can be documented (Naeseth and Hedberg 2008). During this period, the registration of immigrants into America was superior to the registration of emigrants from Norway. The forms for the registration of migrants introduced in the church books in 1820 were not designed to cope with international migration, and hardly with domestic migrants who might need some proof of identification at marriage in a distant parish, perhaps several years after moving there. After the US Civil War, the number of emigrants remained at high levels in most years until the US introduced serious immigration restrictions in 1929, with a nadir during World War I, but peaking in the 1880s and from 1902 to 1907 (Østrem 2014). Comparison of emigrant numbers with census results in the US and searching for emigrants versus immigrants by name indicate that the US and Norwegian sources tell somewhat different stories as is documented in Thorvaldsen’s article in this volume. A combination of individual level source material from both sides of the Atlantic is thus warranted, including censuses as well as emigration and immigration registers.

Constructing a large sample of emigrants and return migrants observed in both Norway and America becomes feasible with automatic record linkage strategies. Such techniques are employed to link source entries in both the North Atlantic Population Project, and the Historical Population Register of Norway. The possibilities of electronic linkages should be juxtaposed with the challenges of this research strategy, however. Using a group of 448 Norwegian migrants matched between the 1900 American and 1910 Norwegian census an empirical analysis shows that migration and marital transitions were likely to have been closely linked. As is also substantiated in Evan Robert’s article

below, machine-linked records hold the promise of tracing several thousand Norwegians across the Atlantic and back again.

Many of the emigrants travelled with and spent their lives in America among co-ethnics (Gjerde 1985, Thorvaldsen 1998, Sunde 2001). Up to ¼ of the emigrants remained only a few years before returning to their homelands, often bringing home money and always bringing new ideas and experiences. Due to the scarcity of immigration registers, especially digital ones, the HPR will be a rich resource particularly for the study of return emigrants once we have linked the emigration protocols to later censuses and church books on the individual level.

The vast under-registration of migration in the church books in comparison with the entries in the longitudinal Swedish protocols means that internal, domestic migration is difficult to trace, even when after 1820 the priests were supposed to register the migrants. One hypothesis is that the annual shipping of fish from Northern Norway to Bergen and the return with grain plus other merchandise led to more permanent migration along the coast since the fishermen carried out most of this transport themselves after participating in the regional fisheries which also entailed much temporary geographic mobility. The introduction of ministerial records makes it possible to link baptism records from one part of the country to marital and burial records or the 1801 census in other regions, especially because of the special marker names, which were given to children born in certain parishes. So far, no one has taken on such a study in a systematic way, however. The most researched internal migration is the “colonisation” of areas in Northern Norway by farmers from the valleys in South-Eastern Norway, most notably the contemporary municipalities Bardu and Målselv south-east of Tromsø from the 1790s. These territories were previously used by the Sami, who trekked with their reindeer between their winter pastures further north or in Sweden and the Norwegian coast, and thus their rights to the land were difficult to defend against the incoming settlers. The pioneering settling of Målselv and Bardu continued until 1805, when 40 colonist families had settled in these northern valleys and but then almost stopped until it restarted in the 1820 with 159 colonist families until 1835. In 1865, when the population had reached 3500, mostly due to natural growth, a quarter of the people was born in Southern Norway according to the birthplace information in the census that year (Thorvaldsen 2004). There were similar settlements in other parishes in Northern Norway, and until the Russian Revolution, Norwegians also settled on the Kola Peninsula. (Jentoft 2005).

From 1865, Norway has taken full count nominative censuses with birthplace information on the level of the parish in every decade except in the 1880s. Until and including 1910, these censuses have or will soon be transcribed, allowing statistical or genealogical analysis on the individual level. This cross-sectional material allows us to study gross migration between administrative units such as provinces (counties) or municipalities, migration being defined as the difference the municipality of birth and of residence. This has been done in the most detailed way in a thesis on the province of Troms in Northern Norway, also using record linkage to follow the same persons from census to census (Thorvaldsen 2000). This province had the lowest emigration rates in the country, because partible inheritance of the land in combination with fishing secured a basic outcome for children who did not leave (Thorvaldsen 1995). Even more detailed analysis of step migration is possible in the HPR, since here also records from the church records are linked to the censuses, meaning that we can follow step migrants who married or had children baptized in other parishes. We are presently working to include the censuses from 1920 to 1950 among those transcribed, together with church records and link these closed records to the open HPR database and the Central Population Register. This will give researchers access to similar longitudinal datasets, although these records will be anonymized. Until then, some census publications from Statistics Norway provide detailed

aggregates about domestic migration flows, for instance from the census in 1946 (Statistics\_Norway 1951).

Temporary geographic mobility may be a more significant phenomenon in Norway than in many other countries due to the large proportion of the population involved in shipping and the fisheries. From 1875 onwards, we can trace some forms of temporary mobility in detail because the Central Statistical Bureau followed the international recommendation to enumerate both the resident and the actual population in the censuses. Thus, both visitors and those absent from their usual addresses were entered in the census manuscripts, and marked according to the *de facto* and the *de jure* principle respectively. Some of these records are already linked to the population register, making it possible to analyse to what extent more permanent migration was inspired by temporary geographic mobility. Tracing the “swallows”, those who moved back and forth between Norway and the US as seasonal workers will be hard, since the censuses are only decadal and they only randomly reported these movements to the priests. They should be found repeatedly in the emigration protocols when leaving in the autumn, but seemingly often without returning in the spring.

It is likely for this volatile group, in addition to other returnee emigrants, that the local community histories explained in Arnfinn Kjelland’s article in this issue will be of the highest value. With their detailed, longitudinal histories of farms and families to supplement the skeleton built from censuses, church books and emigration register, his BSS databases of Busetnadssoge [Settlement History] promise to deliver the kind of social and demographic detail that, hopefully, the HPR can contain for the whole country in the more distant future.

In a seminal article, Steven Ruggles (1999) has analyzed major sources of error in family reconstitution studies connected with the incomplete tracing of migrants and building on only selected number of parishes or population groups. Even if due to non-conformism, the representativeness problems are more serious in the partial English church records he targeted his principle arguments are well worth repeating here. First, there is *the non-representativeness of selected parishes*, which is serious in the case of Norway while we transcribe and link the censuses and church records. Upon completion, this will only apply to a few parishes where the ministerial records have been missing primarily due to fires or where the priests’ handwriting is more difficult to read than usual. The second problem is the selection bias, meaning the *non-representativeness of selected individuals* because of the exclusion of migrants and nonconformists. In Norway, only four percent of the population had left the State Church at the time the Central Population Register was constructed in 1964 and the percentage was half of that in the early 20<sup>th</sup> century. Since also other congregations were supposed to submit lists of their baptized, wed and buried to Statistics Norway and generally did so, non-conformism creates small problems. A bigger problem are all the inconsistencies in the sources due mostly to errors in the originals and the fewer errors introduced during transcription. One reason for building the Historical Population register is actually that we can spot these problems more easily when we have linked the entries on the individual level. The biggest remaining problem is the migrants where the internal migration must be mapped by building a national registry and the international by linking to both emigration records and immigration records in other countries. The hardest will be to trace immigrants and returnee emigrants who did not leave traces by marrying or fathering children, but many of these can be found in censuses.

3 *Censoring (mis-specification of at-risk population)*: The censuses specify the total at-risk population every decade, and the combination with vital and emigration records makes it possible to compute it annually. It is more problematic to specify the at-risk population by municipality or social group, especially during the period 1815 to 1855, when the censuses were numeric.

4 *Linkage failures and under-registration of vital events*: The registration of vital events failed locally also in the 19<sup>th</sup>

century, but is a more serious problem in the 18<sup>th</sup> century, which is not yet planned for inclusion in the HPR. From 1870 the church records and from 1910 the censuses often have birthdates, which means that the duplicates problem became smaller, except for persons with high frequency names in the couple of biggest cities. Again, the problem will be most serious during the period of numeric censuses, because it is difficult to use the method of elimination when the population of linkage candidates is unknown. 5 *Random error*: An important rationale behind building a full-count national register is to minimize random error. While building the HPR and when analysing small groups such as ethnic minorities, random error should still be considered when splitting the aggregates in fine-grained analyses.

The data in the Norwegian Historical Population Register has already been used in articles on central issues in international migration research (Abramitzky, Boustan et al. 2012, Abramitzky, Boustan et al. 2013). Economists at the University of California asked two interrelated questions about the immigrants to the US during the period of mass emigration from Europe: comparing relatives who stayed behind with those who emigrated, what was the return from migration – in other words did those who settled in the US benefit in comparison with those who decided to not emigrate? Using linked census data about brothers where one stayed in Norway while the other emigrated, they found a difference of on average 70 % in favour of those who left. Given the higher salaries in the US at the time, this result can likely be substantiated from other data covering other European nations. The other question was whether the emigrants were selected positively or negatively among potential emigration candidates. Here the researchers found evidence of negative selection in the sense that men whose fathers did not own land or whose fathers held low-skilled occupations were more likely to migrate. Results from a thesis using local data from a municipality just north of Oslo concluded differently, stating that the farmers' children were more likely to emigrate than the cottars' children (Koren 1979). Even with a sample of 50 000 Norwegian men, there is no guarantee that it is more representative than a locality study, since the linkage rate between the US and Norwegian censuses was lower than could be done between the Norwegian emigration lists and census. It is possible, however, that emigrants were more negatively affected after the turn of the century - the locality study did not cover the 20<sup>th</sup> century.

### **Net migration in consecutive censuses**

One method which needs a word of warning is the calculation of net migration by comparing population numbers in consecutive censuses. The logic is that population increase or decrease during the period between censuses can indicate net immigration from a locality, district or nation. Such population developments will naturally also be influenced by the number of births and deaths during the same period. Since Norway has relatively good registration of vital events and State Church membership was virtually obligatory, the number of births and deaths can usually be calculated year by year so that the surplus or deficit of births can be deducted from the difference in population change between the censuses. There still is reason for caution, however, since many censuses around the world have failed to register the whole population. A case in point is the treatment of net international migration in the second volume of the *Norsk innvandringshistorie* [Immigration History of Norway] (Niemi 2003). The calculations showed that the population of Norway was about 166 000 persons lower in the 1815 census than according to the census in 1825, indicating a population growth of nearly 19 percent.<sup>ii</sup> The births and deaths in this ten year period numbered  $x$  and  $y$  respectively – thus the birth surplus was about 16 000 persons. After deducting the birth surplus from the seeming population growth, this is interpreted as a wave of net wave of net immigration from abroad during this decade of about 150 000 persons. It is naturally tempting for a migration historian to publish such an interesting finding “the largest [immigration] we have for any

decade" (page x). The author is thus aware of the singularity of this migration phenomenon and also about the source problems during this period with numeric censuses. The reason that his suspicions are still not raised may be that he considers the net calculation method "simple", and that the text contains no discussion of the historiography related to the weakness of the 1815 census. On closer inspection, three outstanding quantitatively oriented social scientists and historians have discussed the quality of the early 19<sup>th</sup> century censuses and agreed that the 1815 census is of the lowest quality and is plagued by underenumeration. The 1801 census was nominative and taken in a period of peace by administrators in Copenhagen who were world leaders in nominative census taking. In 1815 the administrators were on their own building a new bureaucracy in a country on the brink of bankruptcy. However, they still decided to take a census – the world's first national one after the Napoleonic Wars. The first to criticize the 1815 census was the theologian and social scientist Eilert Sundt. The second was the director of the Statistical Central Bureau, Gunnar Jahn (1929) and the third was the British demographer Michael Drake in his doctoral dissertation on Population and Society in Norway 1735 to 1865 (1969). We have to conclude that there was no immigration wave into Norway after 1815, and neither was there an emigration wave out of the country during the previous fifteen years – a necessary corollary to the emigration myth.

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<sup>i</sup> <https://ssb.no/befolkning/nokkeltall/befolkning>

<sup>ii</sup> Summing the population numbers for the provinces gives a national population nearly a thousand persons higher than the original national aggregate.