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*Paper presented at the IX Finn Forum Conference,
Thunder Bay, Canada, May 31th, 2010*

Factors affecting population size in Finland – the role of immigration and population policies

1. Introduction

Most Western nations share a concern over slowing population growth and a future of labor shortages (e.g. Persson 2010; Söderling 2009). Population size is affected by three factors: fertility, mortality and a positive migration balance (annual immigration exceeds emigration). The highest birth rates in Europe are in France and in Iceland (TFR = 2.1, see Eurostat 2010). In most countries, fertility rates have been below replacement level (total fertility rate < 2.1) for decades. (Eurostat 2010). In Finland, the total fertility rate is currently 1.84, significantly above the EU27 average (TFR_{EU27} = 1.55), and has remained at the same level for most of the 2000s. Since 2007, population growth in Finland has been more dependent on immigration than natural growth; in 2007, 58 % of population growth in Finland resulted from a migration surplus.

In 2009, Statistics Finland released its latest population projections. The organization regularly publishes population projections that are based on certain parameters of fertility, life expectancy and migration. I will first examine the basic projection made by Statistics Finland (Ch. 4).

On my request, Statistics Finland also provided an alternative, tailored projection that contained more migration and fertility parameters than the organization's own projections (Table 1). I will separately examine the effect of migration as well as fertility on projected population size in Finland. The period under examination is through 2040. I will refer to the projections that I commissioned as the "alternative projection" (Ch. 5).

Subsequently I will consider whether it is possible to employ population policy measures to influence fertility rates (in other words, whether population policy can have a pronatalist effect; Ch. 6). The results discussed in this section are based on findings from the international DIALOG Project. DIALOG was a joint project carried out in 14 EU nations in 2005–2008. I was responsible for implementing Finland's contribution to the project. According to the latest Statistics Finland projection, in 2034 mortality will exceed fertility in Finland. If population policies were to have a pronatalist effect, i.e. increase the birth rate, this could mean that natural population growth could continue in Finland for longer.

2. Materials

Statistics Finland, as mentioned earlier, produces regular population projections. The latest is from 2009, and the previous projections are from 2007. The latest was created rather quickly and was necessary mainly because immigration to Finland has grown rapidly, thus rendering the previous projections unreliable.

When Statistics Finland in 2007 projected an annual net immigration of 10,000 persons, this figure was raised to 15,000 in the revised projection. The correction was needed, since in 2009 net immigration to Finland was already at 14,500.

In the calculation that includes migration, net immigration for the whole country is assumed to be 15,000 persons throughout the entire projection period (Statistics Finland 2009: Population projection 2009-2060). In the same projection, age-specific fertility rates (women aged 14 to 50) have also been kept constant throughout the projection period. For the country as a whole, the average total fertility rate – that is, the average number of children born to each individual woman during her lifetime – is 1.85.

According to the basic projection by Statistics Finland, life expectancy for men was 76.6 and for women 83.3 years. In my own alternative projection I used four different fertility parameters (1.6, 1.84, 1.9, 2.1). I chose three different migration parameters: on the low end net immigration was 10,000 persons and 13,500 in the “medium” estimate. The highest immigration parameter was devised by staggering it so that in 2009–2020 it was estimated at 13,500 annually and in 2021-2040, at 20,000 (see Table 1). The fertility parameters in the alternative projection were selected on the basis of the following criteria:

1.60 = EU average

1.84 = National average at the time of the projection

1.90 = National fertility objective in the population policy program of the Family Federation of Finland

2.10 = Natural population growth threshold

Table 1: Projection parameters in the Statistics Finland basic model vs. the alternative model

Projection parameter	Statistics Finland basic projection	Alternative projection
Fertility 1.60	-	x
Fertility 1.85 ¹	x	x
Fertility 1.90	-	x
Fertility 2.10	-	x
Net migration +10,000	-	x
Net migration +13,500	-	x
Net migration +15,000	x	-
Net migration +13,500/20,000	-	x
Life expectancy, men 76.6 yrs	x	x
Life expectancy, women 83.1 yrs	x	x

¹In the alternative model, 1.84 was the total fertility rate in Finland at the time the projection was commissioned.

Following an analysis of the projections, I will examine in Chapter 6 whether population policy can serve pronatalist ends, i.e. increase the population. As material, I use the PPAS survey data from the international DIALOG project. The Population Policy Acceptance Survey (PPAS) was designed as a research instrument and tool for informed policy deliberations. The national fieldwork was undertaken between 2000–2003 in 14 European countries: Belgium (Flanders), the Czech Republic, Germany, Estonia, Italy, Cyprus, Lithuania, Hungary, the Netherlands, Austria, Poland, Romania, Slovenia and Finland. The collated database is a sizable and rich statistical data file containing individual data items for more than 35,000 women and men.

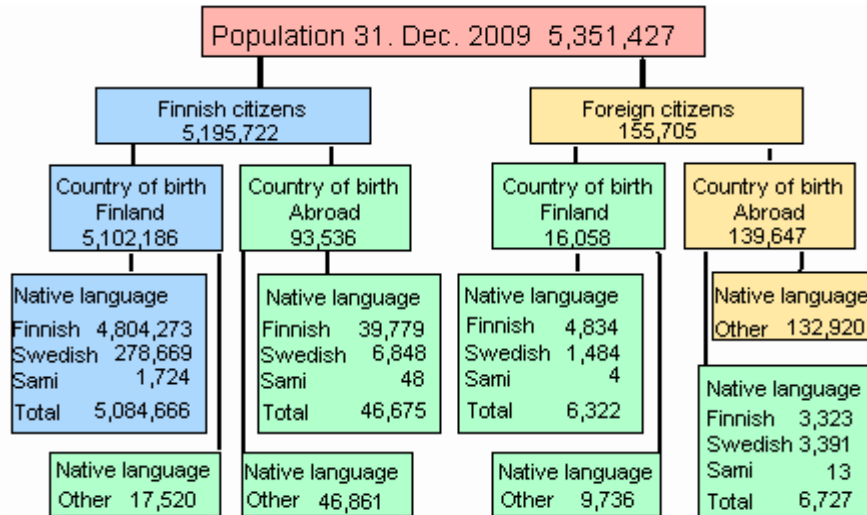
The number of Finnish respondents was 3,816. The PPAS database encompasses information practices, attitudes and opinions of Europeans concerning demographic change, fertility behavior, intergenerational exchange of resources and services, and population-related policies (see more on the PPAS data file: Avramov and Cliquet 2008). The main results were published in two volumes (Höhn et al. 2008); I personally served as project leader for the Finnish segment.

3. Demographic development in Finland – a brief description

At the end of 2009, Finland's population was 5.31 million. Foreigners accounted for approximately 155,000, or 2.9 % (see Figure 1, below). The number of immigrants is higher if we included all foreign-born (country of birth: abroad) persons. At the end of 2009, there were 233,183 foreign-born persons living in Finland. Because some immigrants were of Finnish background (for example, ethnic Finns from Russia and returning Finns from abroad), language, too, can be used as a lens through which to view the population. In 2009, there were 207,037 persons living in Finland who spoke a language other than Finnish, Swedish or Sami.

The population of Finland has quickly become quite internationally diverse; as recently as in the early 1990s, there were only about 20,000 foreign citizens living in Finland.

Figure 1: Country of birth, citizenship and mother tongue of the Finnish population, Dec. 31, 2009



Source: Statistics Finland, Population Structure 2009.

The population of Finland surpassed one million in 1811. Two million was reached in 1879, three million in 1912, four million in 1951, and five million in 1991. Over the last one hundred years, Finland's population dipped four times: as a result of the Civil War, the population decreased in 1918 by 19 000, and during the Winter War, in 1940, by about 4,000. In 1968 and 1969, substantial migration to Sweden resulted in a total population deficit of about 35,000.

Since 2007, the majority of our population increase is a result of immigration. According to Statistics Finland projections, mortality will exceed fertility in 2034. Thereafter, Finland's population growth is entirely reliant on immigration (Statistics Finland: Population Statistics 2009).

According to Statistics Finland's own population projections, Finland will reach a population of nearly 6 million by 2040. Note that the population is following a consistent growth trend, unlike certain Central European countries that are already losing population on an annual basis. This has been true in Germany, for example, since 2007.

The population structure of Finland will age rapidly as a consequence of the ageing of the baby-boom generation born after the Second World War (see Figure 2). In Finland, the baby-boomers comprise people born in 1945–50. During that time, approximately 100,000 children were born each year. The highest-ever monthly birth rate occurred in August of 1945. The war had just ended in the fall of 1944, the ban on dancing was overturned, and alcoholic establishments were re-opened in December of the same year. Nine months later, in August 1945, the largest monthly generation ever was born.

The Finnish baby boom occurred within a short time span. In part this was because the families of soldiers returning from the war were given the opportunity to pay off their government-backed housing loans by having children. A loan was considered paid in full after four children.

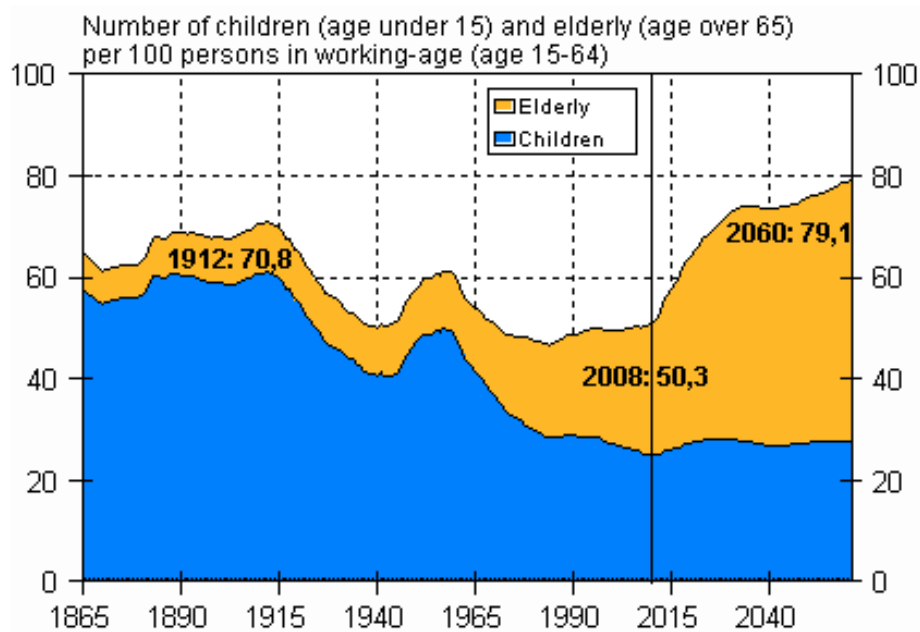
The baby boom was not just a Finnish phenomenon, and most Western nations experienced a similar situation (Söderling 2010, 12). However, the “great generations” of other countries were distributed over longer time spans, while in Finland this generation came about within a five-year period. In the United States, for example, the baby-boom generation comprises people born over the course of two decades. In Finland, the boom generation clearly shares a common set of life experiences and the identity of belonging to the “great generation.”

In Finland, the baby-boom generation has also had other names. For example, the “crowded generation” (*tungosikäpolvi*) refers to their great numbers, the moniker “wet generation” (*märkä sukupolvi*) to increased alcohol use, and the “radical generation” (*radikaali sukupolvi*) to their level of social activism (ibid. 12-13).

4. The future population of Finland according to the basic projection of Statistics Finland

In Finland, population is discussed specifically in terms of the baby-boom generation. This cohort is gradually becoming retired, and in this connection, various retirement incentives have been developed in Finland since 2005 to entice working people to remain in their occupations longer. Starting in 2020, the baby-boom generation will be increasingly in need of care. It has been estimated that in 2020, the social and health care sector must employ nearly 100,000 additional employees to maintain the current quality of care (Honkatukia et al. 2010, 131). This is not possible without more substantial immigration of labor.

The demographic dependency ratio, that is, the number of children and pensioners per one hundred persons of working age, will go up quickly in the near future. At the end of 2008, the demographic dependency ratio was 50.3. According to the projection, the dependency ratio would be 60.4 in 2016 and rise to 70.5 by 2026. In 2060, the demographic dependency ratio is projected to be 79.1.

Figure 2: Demographic dependency ratio 1865–2060

There are two calculations in the projection produced by Statistics Finland:

- A calculation including migration (calculation 1), where the effects of birth rate, mortality, inter-municipal migration and migration on population development are all taken into account.
- The self-sufficiency calculation (calculation 2) anticipates future population development without migration. The calculation only takes into account the impact of birth rates and mortality on population development. The assumptions concerning birth rates and mortality are the same as in Calculation 1.

According to the first calculation, Finland will have a population of 5.98 million by 2040. According to the second scenario (which does not include immigration, only natural population growth), our population would reach approximately 5.47 million, or about half a million fewer people. In other words, immigration plays a major role in the future of our country's population growth. It must be noted that not even substantial immigration will be able to affect population age structure to such a degree that it would stave off a sizable increase in the demographic dependency ratio. This supports the projections made in the UN's "Replacement Migration" report (UN Population Division 2001).

5. Finland's population in 2040 according to the alternative model

According to the Statistics Finland basic model, Finland will have a population of 5,985,356 in 2040 – a little below six million. This would represent an increase of 633,929 persons from 2009.

In my alternative projection both the fertility rate (1.84) and volume of immigration (+13,500) remain near their current levels throughout the period in question. According to this model, Finland's population in 2040 will be 5,880,147 (see Table 2, below). The figure is somewhat lower than the basic projection by Statistics Finland, as a result of a lower net immigration estimate.

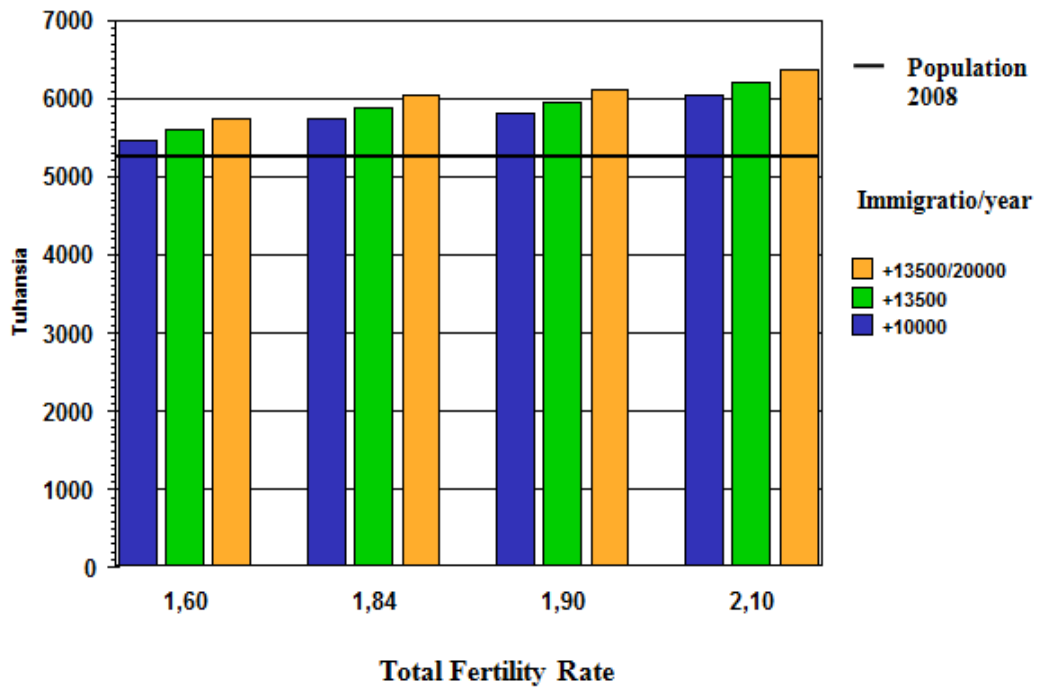
Table 2: Finland's population in 2040 according to the alternative projection. Life expectancy is the same in all parameters. In 2009, the population of Finland was 5.35 million.

Projection parameter		Alternative projection		
		Net immigration +10,000	Net immigration +13,500	Net immigration +13,500/20,000
Fertility	1.60	5,455,054	5,596,219	5,748,009
Fertility	1.84	5,730,424	5,880,147	6,035,602
Fertility	1.90	1,805,117	5,952,334	6,108,707
Fertility	2.10	6,045,078	6,196,378	6,355,815

With the fertility rate at the same level (1.84), but with greater immigration, our 2040 population would exceed 6 million (Table 2: right-hand arrow in red boldface). Similarly, if immigration remains at the same level but the fertility rate increases to 1.9, the country's 2040 population will be clearly below 6 million (Table 2: green, downward arrow). The greatest amount of growth would naturally occur if both the immigration and fertility parameters were to increase from the parameters used in the alternative model (dotted arrow). In this case, Finland's population would clearly surpass 6 million (6,108,707 people).

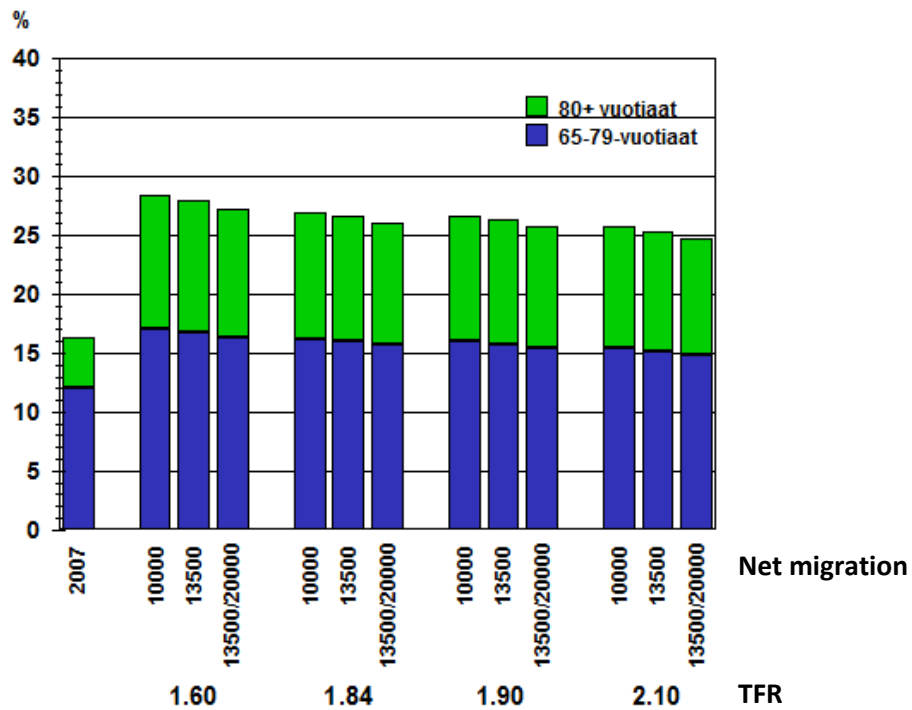
Table 2 and Figure 3 both illustrate that migration clearly has a greater effect on population growth. If we use the highest migration parameter in the population projection, and the fertility parameter is 1.9, our population would be 228,560 greater than it is using the basic model (5,880,147 > 6,108,757; compare to the dotted line in Table 2). Of this projected growth, the increase in the fertility rate accounts for 31.5 % and immigration accounts for the rest. In this projection, migration has the most substantial impact on population growth.

Figure 3: Alternative population projection: Finland's population in 2040 according to different fertility and immigration parameters (black line: population in 2008)



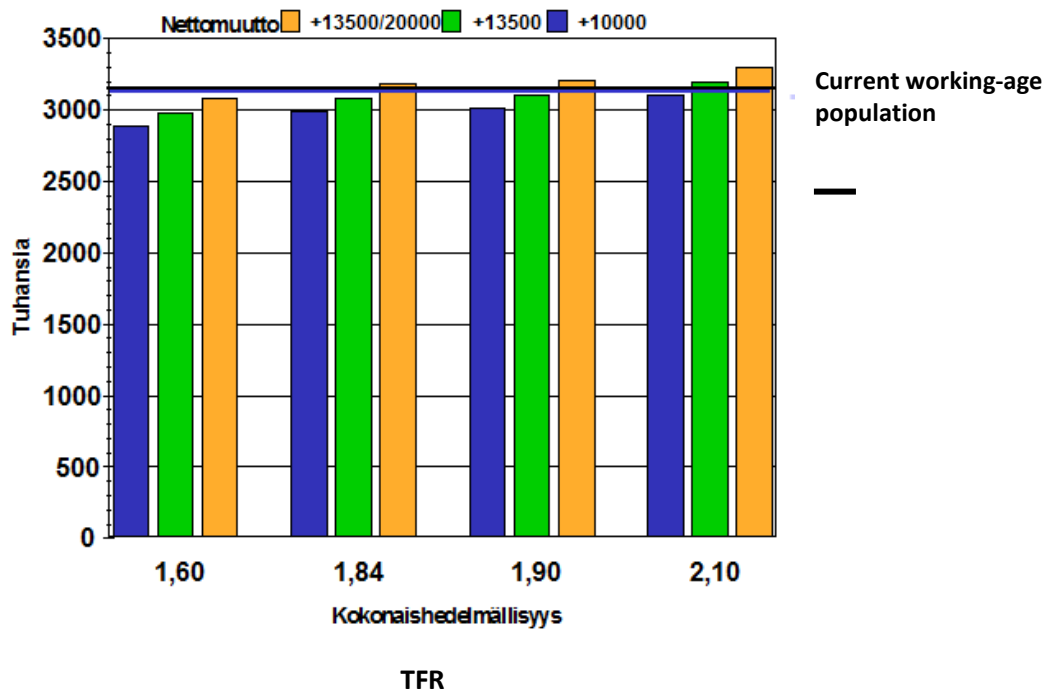
Although the different projection models clearly influence population growth, their correlation with age structures is negligible. In 2007, people 65 and over comprised 16 % of the total population in Finland (Figure 4). As the figure shows, not even the highest migration and/or fertility rate parameters are related to population age structure development. In 2040, the proportion of people aged 65 and over in all projection groups will be at least 9 percentage points greater than now.

Figure 4. Alternative population projection: Proportion of 65–79-year-olds and those aged 80+ in the population in 2007 and 2040 according to different population parameters



Note also that the proportion of current, working-age population increases only in the high-migration scenarios (cf. Figure 5).

Figure 5: Alternative population projection: Working-age (20–64) population in 2040 with different migration and fertility parameters



6. Can population policies increase fertility rates?

Birth rates are fairly high in Finland in European terms, and in this respect, all of the Nordic countries have something in common. It has been observed that the Nordic welfare model increases fertility by about 0.15 – 0.2 units (Kontula and Söderling 2008). One explanation that has been suggested for this boost is women's high rate of employment and a system of family policies that support employment (cf. Kontula and Söderling 2008; Fokkema and Esveldt 2005, 5-6). Recent studies have also shown that women who stay at home (in Sweden) give birth less frequently than women who work outside the home (e.g. Persson 2010).

There are different ways in which low and very low fertility rates are created. The two major components of (very) low period total fertility rates are the postponement of childbearing (i.e. increase of the mean female age at first birth and therefore narrowing the timeframe for fertility) and a reduction in the number of children ever to be born (due to an increase in the proportion of women who remain childless and a decline in the incidence of relatively large families, that is, with three or more children).

In spite of the fact that nowadays many governments view the present low fertility levels with concern, they are reluctant to formulate explicit pronatalist policies, i.e. publicly supported efforts to intervene in the fertility behavior of the population. In the literature, several reasons have been suggested as to why governments have been reluctant so far to formulate explicit pronatalist policies (see Esveldt and Fokkema 2005, 9-10). Researchers have listed six primary causes:

- Few countries have yet experienced a declining population
- Closely related to the first reason and supported by economic analyses, many low-fertility countries are not convinced that a low or negative level of population growth is harmful
- Knowing that the world as a whole is faced with another near-doubling of its population and logically doubting whether it can easily sustain such numbers, some governments feel that it would be inappropriate to argue for higher fertility
- A number of governments are not yet convinced that the present low fertility will be permanent
- It is widely questioned whether a government has the right to influence or even intervene in decisions taken by individual and families, such as decisions about their own fertility, family formation, the desirable type of family or individual lifestyles (according to President Eisenhower, 'the government had no business in one's bedroom').
- Avoiding explicit pronatalist policies may also be due to skepticism about the extent to which policy measures can have a substantial effect on fertility behavior. Historically, some European countries have been successful in reversing fertility declines through the introduction of a set of family policies (for example several pronatalist measures

were adopted in Romania in 1966 in order to raise fertility. The main measure was the restriction of abortion) (see Höhn 1988).

The DIALOG Project also asked respondents' views on the kinds of family policies they would like to see come about. In each country, the responses were limited to the 20–50 age group, in other words people for whom family policies would be relevant in terms of their age. In Finland, the most highly-ranked family policy reform was “improved parental leave”. In this respect Finland differed from the other countries; Finns were the only ones to prioritize this option. In other participating countries, respondents were more likely to prioritize financial benefits (for example, birth allowances, lower income taxes, income-dependent allowances). This seems to be a clear result of our welfare model, which guarantees individuals and families a reasonable income. Finland was the only Nordic country to participate in the DIALOG Project.

DIALOG looked at the extent to which a more generous family policy program would increase the average number of intended children and whether this would lead to higher completed fertility rates in the future, compared to the actual current rate.

During the interviews, respondents were given two questions that addressed the expected impact on their intentions and behavior if the improved family policy measures that they had shown interest in were to be implemented. The formulation of the two questions was as follows:

“If those measures which you considered desirable were introduced, would this have consequences for your own personal life? Please indicate whether you agree or disagree with the following statements”:

- *“I would reconsider the possibility of having a(nother) child”*
- *“I would probably decide to have a(nother) child”* (source: Fokkema and Esveldt (2005, 94-97).

The results in Table 3 show that all countries have the same general pattern. If we focus on the consequences of people *reconsidering* their decision, the total policy effect ranges from .06 children in Italy to .30 children (Estonia, Lithuania), i.e. 6 to 30 children per 100 women. In Finland the corresponding figure was .19 (Table 3). This seems a substantial effect, but we should remember that we are talking about *intentions* regarding future fertility, and changes that are *possible* but that may not be put in practice.

Table 3: Potential impact of changes in family policy measures on the average number of intended children, for those people who do not intend to have a(nother) child, ages 20–40.

	Total number of children intended			Effect in number of children per woman	
	Without	After implementation of new or improved family policy measures		B - A	C - A
	implementation of new or improved family policy measures	B	C		
		respondents who would reconsider having a(nother) child	respondents who would probably decide to have a(nother) child		
A					
BE	1.64	1.86	1.79	0.22	0.15
CZ	1.78	2.03	2.00	0.25	0.22
DE-E	1.41	1.62	1.57	0.21	0.15
DE-W	1.39	1.57	1.52	0.18	0.13
EE	2.05	2.35	2.29	0.30	0.24
IT	1.83	1.90	1.84	0.06	0.01
CY	2.34	2.46	2.44	0.12	0.10
LT	1.92	2.22	2.19	0.30	0.27
HU	2.01	2.14	2.07	0.14	0.07
NL	1.81	1.93	1.89	0.13	0.08
AT	1.65	1.76	1.72	0.11	0.07
PL	1.83	2.06	2.03	0.23	0.20
SI	1.89	2.13	2.08	0.24	0.19
FI	1.80	1.99	1.95	0.19	0.15

Note: data on Romania are not available.

The more “definite” consequence, i.e. saying that one would *probably decide* to have a(nother) child, leaves less room for vague intensions and therefore we immediately see a decrease in the policy’s effects. However, even now changes in policies may lead to an increase of 1 to 27 children per 100 women (15 children in the Finnish sample, see table 4, Fokkema and Esveldt 2005, 94).

7. Conclusion

At present, the population of Finland is growing by approximately 0.5 % annually. Since 2007, the majority of our population growth has occurred as a result of immigration. In its latest projection, Statistics Finland estimated that as of 2034, all of Finland’s population growth will be driven by immigration; in other words, starting in 2034, mortality will exceed fertility.

Statistics Finland issued its latest population projections in 2009. According to their estimates, Finland’s population will reach 5.98 million in 2040. The model used for making this projection is fairly basic, as it contains only one fertility parameter (TFR = 1.85) and one migration parameter (net immigration for the entire projection period is + 15,000 persons).

The alternative projection that I commissioned from Statistics Finland utilized four different fertility parameters and three different migration parameters. Using the different models, it was easier to obtain an understanding of how changes in fertility, on the one hand, and immigration on the other hand, will affect population growth up to 2040. The results show that the impact of immigration on population growth is about two-fold compared to the development of the fertility rate. On the other hand, the results indicate that there is little to be done about the ageing of the population, even with high fertility and immigration rates.

The results also clearly indicate that even maintaining our current level of working-age population (ages 20–64) requires substantial immigration.

The article puts forth that decision makers are generally rather reluctant to undertake population reforms (“politicians should stay out of the bedroom”). In 2005, the Family Federation of Finland published a family policy program that set a national goal of bringing up the total fertility rate from 1.8 (at the time) to 1.9.

One of the objectives of the extensive, European-wide DIALOG Project was to determine whether policies that translate to benefits for families would have a pronatalist effect. The results were interesting. According to the study, in Finland for example, 15 additional children per 100 would be born if the family policy reforms articulated by respondents were to come about. Naturally, this represents just one, albeit interesting, result of one survey.

The population projections for Finland differ significantly from those for Canada. The main reason for this is that only 2–3 % of the Finnish population has an immigrant background. In Canada, that proportion is tenfold (Statistics Canada 2010). Canadian population projections focus on the ethno-cultural diversity of the population (ibid. 1.15). In Finland and in Europe in general, immigrants are viewed as a single group.

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