MUTUAL LEARNING PROGRAMME:

PEER COUNTRY COMMENTS PAPER - NORWAY

Favourable methods for labour market projections

Peer Review on "The Ageing Population and Educational Choices"

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CONTENTS

1 LABOUR MARKET SITUATION IN THE PEER COUNTRY

This paper has been prepared for a Peer Review within the framework of the Mutual Learning Programme. It provides information on Norway's comments on the policy example of the Host Country for the Peer Review. For information on the policy example, please refer to the Host Country Discussion Paper.

After the economic recession in the beginning of the 1990s the labour market in Norway has been rather tight with the exception of a minor slack from 2002 to 2005. From a peak of 6.0 per cent in 1993 the rate of unemployment according to the Labour Force Sample Survey (LFSS) decreased to 3.2 per cent in 1998-99, reached a temporary peak of about 4.5 per cent in the years 2003-05, and dropped to about 2.5 per cent in 2007-08. The growth in employment was especially strong from 2005 to 2008. In this period the number of employed according to the National Accounts increased by about 260 000 persons, or 11 percent. A major part of the growth took place in private services and was caused by a strong increase in household's disposable incomes and a very low rate of interest in the beginning of the period. Employment in general government services also increased significantly.

From 1990 to 2008 employment in Norway increased by more than 550 000 persons, or 27 percent. Like in Finland, almost all the growth took place in private services and general government as presented in figure 1. Due to the strong growth in private services, the share of employment in general government including defence only increased from 27.8 per cent in 1990 to 29.0 per cent in 2008. During the last two decades the growth in the number of employed has been met by increased supply, mainly caused by larger cohorts entering the labour market than those retiring, increasing participation rates among youths and women and higher immigration. Especially, the strong growth in employment from 2005 to 2008 was largely met by high net immigration.

The recession in Norway in the beginning of the 1990s was partly caused by problems in the financial sector, and restructuring has made the sector more robust. Due to the strong financial position of the Norwegian government budget, policy measures implemented to counteract the recent crisis also were rather strong compared to other countries. As a result, the Norwegian labour market has been less influenced than most other countries' by the recent economic downturn.

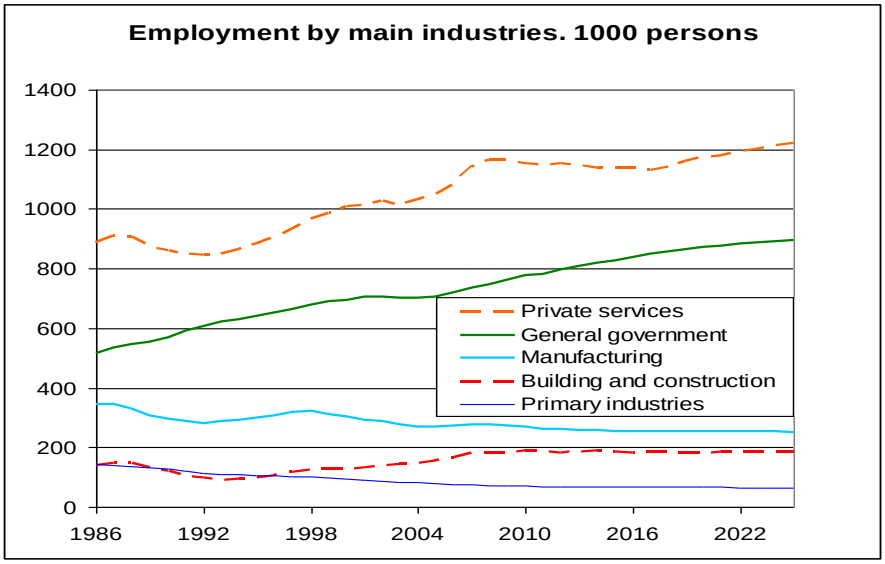
As a result of the downturn the number of employed decreased only by 28 000 persons, or 1.1 per cent, from the 4th quarter of 2008 to the 4th quarter of 2009 according to LFSS. The rate of unemployment reached 3.7 per cent in the first quarter of 2010. According to projections from statistics, Norway from the beginning of 2010 had no growth in employment. In the first years ahead this may cause a continued weak increase in the rate of unemployment which is expected to reach a peak of 3.9 per cent as a yearly average in 2011 and 2012. But this is still somewhat lower than the level observed during the minor recession from 2003 to 2005.

Ageing of the Norwegian population is now causing relatively large cohorts born after the Second World War to retire. This will obviously reduce growth in the supply of labour. However, as experienced in the last years, the strong growth in demand for labour has led to increased immigration, especially from the new EU-members in Eastern Europe. When demand for labour now has slowed down it is quite uncertain how much immigration may be reduced. It thus seems possible that the labour force may continue to grow, but with a lower rate than during the past decades. As in Finland, an evident consequence of ageing is an increase in demand for health and social services. This will especially happen after 2020 when the first large cohorts born after the War pass the age of 75.

Because the official age of retirement in Norway is 67 with the present pension system, expenditures for old age pensions will start to grow in a few years. To reduce growth in pension expenditures and stimulate postponed retirement, a pension reform is going to be implemented from 2011. An actuarial design with a flexible retirement age is the main new element of the reformed system. At the age of retirement each individual's pension entitlement is divided by life expectancy at this age to calculate the yearly pension benefits. If you retire early you only get low yearly benefits and vice versa. Yearly benefits are also reduced if life expectancy continues to grow. However, it is possible to counteract the effects on pension benefits from growing life expectancy by postponing retirement.

Based on assumptions about a decreasing, but still significant, net immigration flow, labour supply is expected to grow modestly. The projected effects on the number of employed in main groups of industries are shown in figure 1. Employment projections for the general government sector are highly affected by the assumptions that priority will be given to expansion of health and social services to meet the needs of an ageing population and a modest growth in standards. In the years to follow, employment in private services is expected to stay constant, while employment in primary industries and manufacturing may continue to decrease.

Figure 1: Observed and projected employment for main groups of industries



2 ASSESSMENT OF THE POLICY MEASURE

In Norway the main models for demographic and macroeconomic projections and policy analyses are developed and maintained by the Research Department of Statistics Norway. A separate Research Department was established in 1950, mainly as a consequence of the construction of the National Accounts (NA) in the years before and the need for politicians to get access to independent economic analyses in the reconstruction of the country after The Second World War. The first macroeconomic model in Statistics Norway was established as a simple input-output model towards the end of the 1950s. Throughout the 1960s and the 1970s the macroeconomic models were further developed, and applied general equilibrium modelling was also included. The 1960s also initiated an era of computer based tax models that were further developed to microsimulation models for tax and pension analyses during the 1980s and 1990s. In the 1970s and the 1980s research on energy and petroleum economics was included among the research activities.

For analyses of demographic and economic development with especially relevance for the labour market, at present we use the following models:

BEFREG: A cohort component model used for Statistics Norway's official demographic projections based on different alternative assumptions about fertility, mortality and the size and composition of net immigration. The official demographic projections form the basis for all projections with other demographic and economic models.

MAKKO: A partial model used to project demand for labour in 12 different services mainly produced by general government.

HELSEMOD and LÆRERMOD: Partial models used for projections of supply and demand for respectively 20 different kinds of health care personnel and 4 groups of teachers.

MODAG: A dynamic macroeconomic model mainly used by the Ministry of Finance for policy analyses in the medium run. The National Accounts (NA) forms the conceptual framework and the empirical basis of the model that distinguishes between 45 different products and 21 different industries. An input-output structure and the account-based relationship are supplied by econometric equations describing how the agents in the economy tend to respond to different options.

MOSART: A dynamic microsimulation model consistent with the official demographic projections. The model is used for projections and policy analyses of education, labour supply and pension expenditures. Supply of labour by education is modelled for given assumptions of educational propensities and labour market participation rates by age and gender.

AD-MOD: A sub-model distributing aggregate employment in the 21 industries from MODAG on the 27 educational groups from MOSART. The main objective of the model is to compare supply and demand for different groups of education.

MSG6: A computable general equilibrium model (CGE) used for long term-projections and policy analyses. The account-based relationships and the input structure correspond to MODAG, but MSG6 is even somewhat more detailed regarding the number of products and industries.

It is a great advantage to have the portfolio of different models within one institution. By this organising consistency is more easily achieved. In actual analyses made the last years, the main alternative assumptions regarding the scope for growth in standards in the partial models MAKKO and HELSEMOD are made according to the restrictions that follow from the fiscal sustainability rule, long term balance in the labour market and the balance of payments. Because ageing of the population now is starting in Norway simultaneously with a slower growth (or even a decrease) in petroleum revenues, the improvement in standards in public financed health care and social services has to be far smaller in the years to come than in the past decades.

The large uncertainty about the future size of net immigration is of importance for the projections on labour supply. Although Norwegian authorities practise strong regulations on immigration from outside the EU, a tight labour market and a high income level, may continue to attract immigrants from the EU-countries. There is also a great uncertainty about political priorities regarding future growth of welfare services. It will be discussed how much of future growth that is going to be financed by the government, and thereby financed by higher taxes and user fees. Slow growth in the part financed by the government will lead to stronger growth in private health care and social services.

Projections on supply and demand for different kinds of education directed towards Norwegian health care and social services made by HELSEMOD were published by Statistics Norway in 2009. On the demand side, three alternative scenarios were considered:

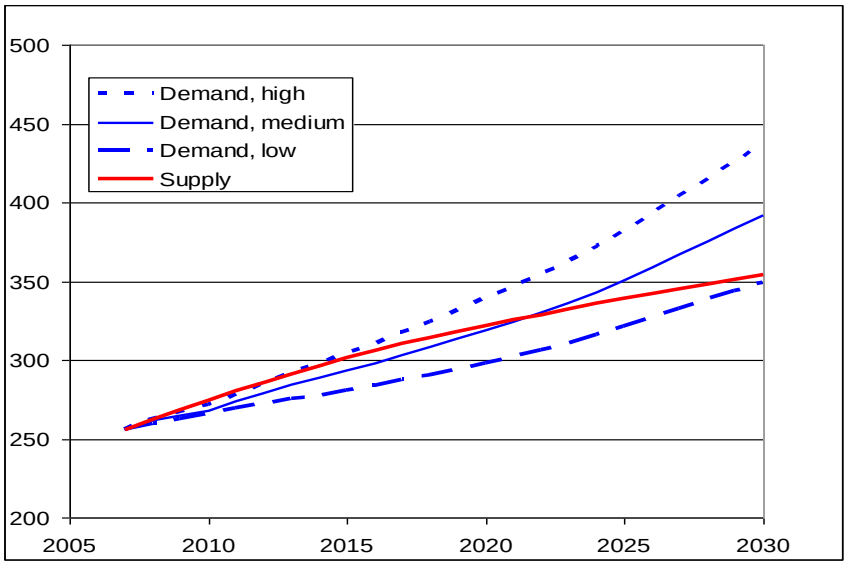
1. Low: Based on fixed user propensities, demand increases according to demographics

2. Medium: 0.5 per cent growth in standards per year
3. High: 1.0 per cent growth in standards per year

The assumptions of the medium scenario are in accordance with what is possible according to fiscal concerns. On the supply side, capacity in the Norwegian educational system and propensities to fulfil are kept at the observed level from 2007.

Results presented in figure 2 show that ageing of the population, especially from 2020, will cause an increased growth in demand. But due to a strong expansion of capacity in health care and social educations during the last decades, total supply may grow according to demand towards 2020, even with the high alternative. From 2020 demand will grow faster than supply. As a result, more individuals will have to be educated towards health care and social services, or standards of services provided will have to be reduced due to lack of personnel. At the undergraduate (and graduate) level of tertiary education, the number of applicants in the past years has been larger than the educational capacity. An increase in capacity is thus an efficient mean to increase supply at this level. However, at the secondary level policy, to a minor extent, is able to control field structure of enrolment and the challenge is to stimulate more youths to enrol in health care education. Otherwise, the projections predict an increasing shortage of auxiliary nurses and care workers, even in the short run.

Figure 2: Projected total supply and demand for educated health personnel in Norway. 1000 man-years



3 ASSESSMENT OF THE SUCCESS FACTORS AND TRANSFERABILITY

In Norway the rather disaggregated macroeconomic CGE-model has been operative and used for long-term projections and policy analyses since the 1970s. We therefore think that the construction of the CGE-model VATTAGE will be useful for the long-term projections and policy-analyses in Finland. As nobody ever will build a perfect model for all purposes, we may have something to learn from the work with the Finnish model and how it is used in policy analyses. However, we then have to get more information about different aspects of the model than what is revealed in the Host Country Paper.

One limitation of our CGE-model MSG6 and our macroeconomic model MODAG is that labour is treated as homogenous. For medium and long-run planning purposes it may be relevant to include different kinds of labour. As the scope for including too many kinds of labour in a macroeconomic model may be limited, we have constructed partial models for labour market projections with a rather disaggregated classification. However, in a new version of the macroeconomic model MODAG recently developed, labour is divided into five categories by level of education.

Due to fiscal constraints, ageing of the population may put limitations on the possibilities for future growth in health care and social services standards. But the analyses also show that this discussion has to be linked to possibilities for future growth in labour supply through immigration and by increased participation rates for the native population. It is also a matter of political discussion to what degree a further increase in government welfare services may be financed by increases in taxes and user fees, and to what degree future growth has to take place in private markets.

There are some difficulties in modelling supply of labour structured by education. A model for educational choice seems to be beneficial, and this module has to be linked to the retirement decision to obtain labour supply from persons with different kinds of education. It is not obvious from the Host Country Paper how this is modelled in Finland.

Until the 1990s Norway had a regional macroeconomic model linked to demographic development and labour market conditions. With 19 counties, regional analyses of good quality required a rather detailed model and insight in special regional characteristics. The job turned out to demand a lot of resources to obtain analyses of acceptable quality, and this activity was gradually closed down because neither the Ministry of Regional Affaires, nor Statistics Norway, considered further work of the regional model to be worth the money. And the decision applied even for single labour aggregate. Disaggregating along educational and qualification structure would demand even more resources.

4 QUESTIONS

- May immigration to Finland from the new EU member states and Russia increase if labour demand continues to grow while ageing of the population causes labour supply to decrease?
- Has the VATTAGE model been used for analyses of different policies regarding the scope for growth in governmental welfare services under different assumption about the level of taxes and user fees?
- Are different kinds of labour by education or qualification included in the VATTAGE model?
- How is supply of different kinds of labour by education or qualification handled in the Finnish model system?

ANNEX 1: SUMMARY TABLE

Labour market situation in the Peer Country
• Strong growth in employment and low unemployment since the beginning of the 1990s • Increased employment in private services and general government • Norway has only been leniently hurt by the recent economic crises • Modest growth in supply and demand for labour is expected in the years ahead
Assessment of the policy measure
• Main models for demographic and macroeconomic projections and policy analyses are developed and maintained by Statistics Norway • Large uncertainty about the future size of net immigration • Limited future growth in health care and social services due to fiscal constraints • Also an increasing shortage of personnel with health care educations
Assessment of success factors and transferability
• Beneficial to use a CGE-model for long term projections and policy analyses • Limitations in the scope for disaggregation of labour in a macroeconomic model create need for more detailed sub-models • Discussion of implications from fiscal policy constraints on future growth in health care services • Discussion of how to increase supply of labour with educations directed towards health care services to meet increasing demand
Questions
• Possibilities for increased immigration to Finland if unemployment decreases? • Scope for higher taxes to meet a growing demand for welfare services in Finland? • How is supply of different kinds of labour by education modelled?