

Skills Forecasts in Globalising Labour Markets

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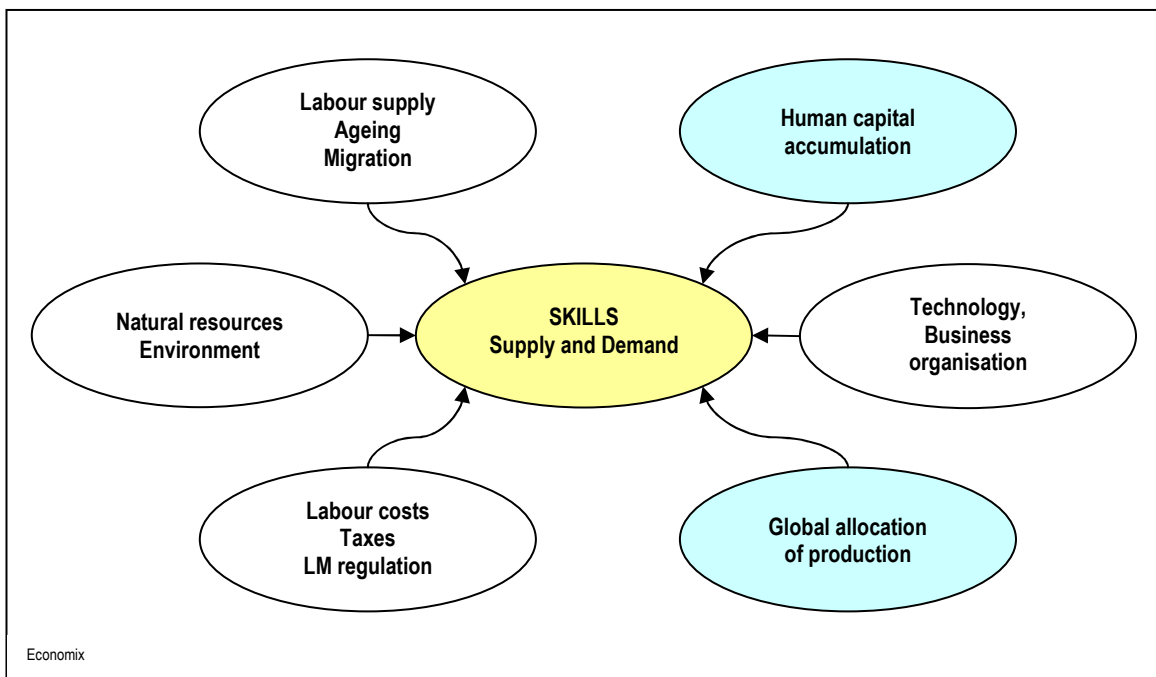
The idea of this paper is to contribute to the debate on future skill needs through a presentation of alternative theses. Taking the Finnish exercise on forecasting skills and labour market needs as a reference, the paper asks what the major determinants of labour demand could be in the period of the next 15 to 20 years and which methods could best reveal the basic trends.

1. Changing Scenarios for European Labour Markets

In general, all labour market models refer to a set of determinants which consists of (Chart 1):

- Labour supply based on population forecasts, including the age structure of the labour force, and migration flows;
- The accumulation of human resources as the qualitative output of initial education and training, and continuing training;
- The effects of new technologies and the changes of business organisation on production processes and productivity;

Chart 1 Determinants of Skills Supply and Demand



- The prices of natural resources and the cost of environmental protection;
- Labour costs including taxes and the indirect cost effects of labour market regulation;
- The changes of international labour division following the differences in prices, wages and exchange rates.

These factors are reflected in the changes of a country's production structure by products or branches and the resulting labour demand by skills, occupations or educational levels.

While consensus can be expected for this description – even if someone might miss e.g. financial markets or product market regulation – the question is what might be the correct weighting of these determinants rather than which one was not mentioned. And indeed, the weighting seems to have changed considerably with the emergence of a global economy during the last 20 years. The exponential growth of information exchange has created a worldwide knowledge base which extended both, production networks and product markets, assimilated consumer preferences and behaviour, and started to establish global labour markets. Under these conditions, acting “locally” becomes increasingly ineffective as the business world is enabled to act “globally”. Moreover, workers are starting to detect the opportunities of a global labour market. This is not only demanding for a reconsideration of the structure of forecasting models but calls for a debate on the strategic options of a country regarding employment policies and the provision of skills.

1.1 Declining Importance of National Labour Supply

On open labour markets – like the European – the danger of skills shortages is reduced compared to closed labour markets. “Imports” of labour allow filling the gaps of labour demand and job opportunities abroad help reducing unemployment. A mobile labour force thus contributes to the reduction of imbalances.

Of course, regional mobility is limited and through its time lags far from providing perfect adjustment. However, as the example of the City of Munich shows, it substantially contributes to achieve labour market equilibria¹: during the new economy boom of the second half of the nineteen-nineties, a considerable number of workers from abroad took the jobs in the software industries and the financial sector while foreign workers in the declining construction and manufacturing industries left the region. Without these workers, the companies could hardly have profited from the growth opportunities of international business and unemployment would have been higher.

Beyond the way of adjustment this example shows that a region without an effective labour supply policy can avoid imbalances through the openness of its labour market. European-wide or world-wide staff recruitment avoids bottlenecks on the labour market and allows acquiring scarce competences at low training costs. This, however, is the shining side of the coin. On the dark

¹ See Kurt Vogler-Ludwig (2002): Der Beitrag der ausländischen Bevölkerung zur Wirtschaft Münchens und der Region. Landeshauptstadt München, Referat Arbeit und Wirtschaft. München. [\[http://www.economix.org/ausl.htm\]](http://www.economix.org/ausl.htm)

side, resident workers face increasing competition from workers abroad, in particular those who are or can be less mobile. As less prosperous regions in Germany reveal, rising unemployment risks and lower wages are the consequences.

Migration policy therefore is becoming an essential instrument to regulate labour supply by addressing both, the needs on the “spot markets” of labour and the risks in declining areas. This takes some pressure from national labour supply policy which always has problems to provide the accurate number of workers with the competences actually demanded.

1.2 Is Ageing a Problem?

The rising share of older persons in the population would certainly be a serious problem if nothing changes as regards pension age, labour participation of older workers and health. But this can hardly be assumed. Various European countries rose mandatory pension age or are planning such a step. Countries like Finland undertake a successful ageing policy to boost employment among older workers. And finally, rising life expectancy means longer periods of healthiness at least for the average of older persons.

This means on the labour supply side that the age-related reduction of the labour force can be (partly) compensated. On the labour demand side, the assumption of a strong increase of care services should be carefully checked. As the last years before death are the care-intensive periods, demand for these services depends on the size of the oldest age groups rather than the number of pensioners. Nevertheless, rising demand for care and health services can be assumed due to outsourcing from private households and the extension of care-intensities.

1.3 De-Industrialisation of European Economies

In the industrial age manufacturing equipment was the key to high productivity and competitive advantages. Germany in particular profited from its highly developed capital goods industries and a skilled manufacturing labour force. In the information age production technology provides smaller benefits as all competitors have access to latest technologies. Free trade of capital goods is one of the factors determining this trend, and access to production knowledge at low marginal costs is another. Many countries meanwhile have trained a skilled labour force able to operate the facilities. The competitive advantage of high-wage countries in standardised manufacturing production vanished with the ubiquitous access to new technologies.

A broadening stream of relocation was triggered off in European manufacturing with substantial employment losses². Within the last 10 years the share of the manufacturing, energy and construction sectors in Germany e.g. declined by 10 percentage points meaning a loss of 4.2

² Vogler-Ludwig et al. (1995). Medium term employment forecasts by EU regions and sectors of industry. European Commission, Directorate General for Employment and Social Affairs, Luxembourg

million jobs. Many of these jobs went to the new Member States and to Asia, China in particular, and there is little hope that they will come back.

This is the major threat which arises from the exorbitant growth of China and other low-cost countries. They force traditional manufacturing countries to restructure but on balance they take off many of the traditional jobs. Compared to this the positive employment effects of lower commodity prices and higher energy prices appear to be minor (see below).

As a reaction European producers started a R&D-driven race through developing their competitive advantages in high-tech areas. This kept profit margins at reasonable levels but abandoned the role of manufacturing as the major employer.

In parallel, knowledge-based services were developed supporting the sophistication of industrial products, business organisation and extending the supply of professional services. The information-based economy provided the growth potentials which formerly were found in the markets for physical goods. As a late-comer, however, European service providers could not fully profit from the growth of information markets. Thus Europe was affected by the labour saving productivity effects rather than the job creating growth effects of information technologies³.

1.4 Do Energy Prices Really Matter?

Of course, higher energy prices are financial transfers to energy producing countries and lead to comparative disadvantages for energy-intensive sectors. However, all countries – except the energy producers – have to bear similar cost disadvantages. This ameliorates negative effects at least in the short-run. Moreover, rising imports of energy producing countries from non-energy producing countries will compensate parts of the negative growth effects. In the long-run consumers will substitute energy-intensive products and producers will be forced to develop adequate technical solutions. This might be in favour of labour as energy substitutes labour in many cases. At least with the perspective of two decades, the relative rise of energy prices might be less job curbing than it seems during a phase of rapid increase.

1.5 Human Capital is the Wealth of Nations

The de-industrialisation of the European economies brought evidence that the dynamics of the world economy do not allow persisting in a fixed structure of industrial activities. The prevailing model of mass-production came to its limits because it could only exploit the productivity potentials of a strongly divided and standardised production process but was unable to use the individual potentials of workers. The ongoing transition to a knowledge-based economy is attributed to the insight that economic growth and international competitiveness rely on the creativity of a society, its intellectual competences and its cognitive infrastructure. Immaterial

³ Gerstenberger W., Golinelli R., Vogler-Ludwig K. (1991) Impacts of Information Technology on Future Employment. Central Report. Study for the Commission of the European Communities. Brussels.

investments in education and training, research and development, science and culture create the profit rates. Capital goods only appear as a reflex of technical intelligence and natural resources have to be used in a sophisticated way. Thus human capital is the variable which remains in the higher derivate of the growth formula and finally creates the wealth of nations⁴. “Everything is labour” stated Karl Marx in his retrospective analysis. From the viewpoint of this paper labour is the basis of future development.

Given these conditions, the capability for transition became the pivotal competence of an economy rather than its specialisation on specific markets. The ingenuity to develop new solutions and the flexibility to adjust to changing market conditions create the comparative advantages. However, in many cases these advantages can only be achieved on the basis of a long-term accumulation of knowledge.

Many countries in the world realised the new success factors and strongly invested into education and training, the Asian countries in particular. The historical comparative advantage of European countries in this field declined, and can be expected to decrease further. Thus, the number of jobs which will remain in a country or will there be created depends on its immaterial investments, education and training in the first line, the efficiency of these investments, and its capability to attract skilled labour from abroad.

2. Methodological Impediments

2.1 The Changing Nature of Occupations

Disaggregated forecasts like occupational forecasts always have a problem with the level of disaggregation. If groups are too broad, interesting changes at sub-levels might be covered. If too differentiated, additional information is required at a volume which grows at exponential pace. This is the same for all types of disaggregation.

In addition, occupational forecasts face the problem that the profile of occupations might change within rather short periods of time. E.g.

- The introduction of personal computers completely changed the production and maintenance of office machinery.
- The use of electronic circuits altered all occupations related to telephone systems
- The introduction of logistics changed warehouse occupations, etc.

In particular if vocational training is highly specialised – like in Germany with its 360 apprenticeships – such technological changes might affect or even displace specific occupations. This is the reason why German public authorities are very cautious with publishing occupational forecasts and switch to the forecast of activities (e.g. office work, fabrication, supervising etc.).

⁴ Vogler-Ludwig K (2003): Ausbildung für einfache Berufe. München.

2.2 The Weakening Link between Occupations and Sectors

Generally, labour demand by occupations is forecasted by estimating sectoral labour demand which is sub-divided by occupations. This requires a principal link between occupations and sectors as it is given for miners, bricklayers, bankers or teachers. However, the broadening of skills requirements leads to a lower concentration of occupations on sectors as it was always the case e.g. for office workers, software programmers, or warehousemen.

Occupational forecasts therefore have to rethink their methodology which should be based on intrinsic determinants of occupational change rather than occupation-by-sector matrices. Ideally such behavioural occupational models include relative wages levels or social status of occupations as explaining variables.

2.3 The Weakening Link between Supply and Demand

The travel-to-work areas are those areas where supply and demand for labour have to be balanced on a daily basis. Wider balancing requires the relocation of residence for workers. This can be achieved within the country, Europe or even non-European countries. As pointed out earlier, Europeanization reduces the national or regional segmentation of labour markets and removes imbalances. This weakens the links between supply and demand.

3. Conclusion

The exact calculation of labour demand for occupations or occupational groups is valuable information on the dominant trends in the labour market. It reveals the effects of macro-economic development and sectoral or regional transition of the economy on occupations and skills.

However, the exactness of figures is also the weaknesses of such an approach. If the details of the model calculations are considered, alternative hypotheses about future developments might have similar probabilities and relevant impacts might not be adequately addressed. In the context of the Finnish exercise, two major aspects were specified in this paper, the determining role of human capital in the context of international competitiveness and long-term growth of nations, and the blurring of regional boundaries of labour markets.

It is recommended to use the present interim stage of the forecast to develop a strategic view on the skills demand in Finland. Rather than calculating demand figures, the major questions could be which skills supply will be able to achieve the maximum growth in an internationally competitive environment, which education and training investment will be necessary to achieve the targets, and which labour market constitution will best promote the accumulation of human capital. Such answers can best be given by developing alternative scenarios on the future of the Finnish economy, its labour market and human capital development.