

THE CHANGING STRUCTURE AND QUALITY OF JOBS IN BELGIUM

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1. Abstract

The labour market's structure is continuously changing. The changes in the composition of jobs in Belgium has a strong influence on relative wages and hence on the degree of income inequality. Belgian job quality is also changing because salary has become one of the most important ways of measuring job quality. Other measures of job quality - including secondary employment conditions, the stability of the employment contract and the level of absenteeism - after all are correlated with one's salary.

Recent labour market research (cf. Goos & Manning, 2003, 2007; Autor, Katz & Kearney, 2006; Goos, Manning & Salomons, 2009a, b), however, shows that the sectoral shift towards the services industry, also called de-industrialisation, is not the only change that became apparent in the last decade. The employment proportion of the highest and lowest paid occupations is on the rise, to the detriment of employment in occupations with average wages. This phenomenon is called "polarization". These changes in the employment structure also take place *within* industries; as a result sectoral shifts such as de-industrialisation and changes in the demand for goods cannot offer a sufficient explanation for this polarisation. Polarization means that a larger proportion of workers will earn lower wages in the short term, and thus have a bad job, resulting in increased income inequality.

This contribution provides an overview of recent changes in the employment structure in Belgium, its causes and potential consequences for income inequality. The contribution is based on three surveys on qualitative and quantitative changes in the employment structure in Flanders and Belgium and on sectoral job creation and job destruction in Flanders (Goos & Salomons, 2009a, 2009b, 2010).

The phenomenon of polarization was explained in this contribution based on causes related to labour demand, i.e., technological change and globalisation. Finally we also examined how these shifts in the employment structure may translate into shifts in terms of the compensation structure in the longer term:

(1) average job quality is increasing;

(2) the proportion of workers in low-paid jobs will increase but their relative salaries will rise if the demand effect dominates the selection and supply effects. This is more probable in the longer term, as the supply of workers from routine jobs decreases.

Key words:

Labour market; employment structure; compensation structure

2. Study objectives

Belgium's employment structure has become polarized: the employment proportion of jobs with average wages in manufacturing and office jobs is disappearing in favour of both highly paid professional jobs and low-paid service jobs. In the short term, average job quality will increase, but at the same time the variation in employment quality and, related to this, inequality will also rise.

The studies on which we based ourselves for these contributions aimed to explain this polarisation. They wanted to do this by reviewing the causes for shifts in the employment structure. On the one hand, there are significant changes in the labour supply, both in terms of the educational level and in terms of the male-female ratio; likewise factors such as immigration and ageing also play a role. The emphasis, however, was placed on explanations for structural changes in the labour demand, because these are the most important reason for shifts in the distribution of income (Katz & Autor, 1999). Next to this the aim was to examine how these shifts in the employment structure in the long term may translate into changes in the compensation structure.

3. Methods and data

The main data sources are the European Union Labour Force Survey (ELFS), the Occupational Information Network (ONET) data, a data source on the task content of jobs and data on how often certain jobs are outsourced abroad, from the European Restructuring Monitor (ERM).

Analyses were carried out for 15 ELFS countries: Austria, Belgium, Denmark, Finland, France, Greece, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden and the United Kingdom. In the data we only retained active individuals (according to the definition of efficacy of the International Labour Organisation, ILO), the occupation (classified according to the International Standard Classification of Occupations, ISCO), industry (classified according to the NACE code, the European classification of activities) and the educational level (classified according to the International Standard Classification of Education, ISCED). Table 1 shows the available years, the total number of observations and the average number of observations per ISCO-NACE unit throughout the years. Ninety-six ONET variables were used to measure the influence of technological change.

Methodological explanation

Table 1 Availability of employment data for Belgium, the Belgian regions, and 15 European countries

	Available years	Total number of observations	Number of observations in ind – occupation – year
Belgium	1993-2006	260,833	3,407
Flanders	1996-2006	108,428	2,899
Wallonia	1996-2006	94,105	2,865
Brussels	1996-2006	50,746	2,731
Denmark	1993-2006	129,122	3,047
Finland	1997-2006	144,692	2,280
France	1993-2006	611,043	3,773
Greece	1993-2006	532,376	3,207
Ireland	1998-2006	318,083	2,394
Italy	1993-1999, 2004-2006	784,710	2,530
Luxembourg	1993-2006	107,194	2,833
the Netherlands	1993-2006	454,237	3,642
Norway	1996-2006	141,412	2,472
Austria	1995-2006	325,057	2,900
Portugal	1993-2006	298,554	3,369
Spain	1993-2006	781,000	3,736
The United Kingdom	1993-2006	845,568	3,920
Sweden	1997-2006	283,227	2,339

Sources: ELFS Remarks: 1993-1997 omitted for Ireland because an industry (NACE code P) is missing; 2000-2003 omitted for Italy because an occupation (ISCO code 13) is missing. The same number of observations is available for employed persons and the number of hours worked weekly.

4. Findings

4.1 Technological progress and globalization as the causes of polarization

In order to understand the consequences of polarization in the longer term its causes have to be understood. The first important factor is technological progress. Since the industrial revolution, technology has not stood still, which, in turn, has had an important influence on the way in which people go about their jobs. The hypothesis which several economists have endorsed in the last years is that technological progress, at any rate since the 1980s, has been distorted when it comes to non-routine tasks (Autor, Levy & Murnane, 2003). This means that computers can replace people in jobs which require a lot of routine actions, while people (up until now) still have an advantage when it comes to dealing with non-routine tasks. For example, a computer can easily complete an assembly process, but it cannot easily manage a team, teach a class, wait on tables in a restaurant or cut someone's hair. As a result technological progress will increase the demand for labour in jobs with a lot of non-routine tasks, compared with the demand for labour in jobs with mainly routine tasks. This would not affect income inequality if the (non-) routine jobs were distributed evenly across the income distribution. However, they are not (Goos & Manning, 2003). The routine jobs (mainly jobs in the industry and office jobs) come with an average wage, while non-routine jobs are either very well paid (managers, professionals) or not very well-paid (cleaners, hairdressers, babysitters). This is precisely why polarisation is possible.

A second important cause of polarization is related to globalization: companies outsource (part of) their production process to other countries (offshoring). Obviously a large proportion of offshoring is in fact possible due to technological progress. Innovations in Information and Communication Technology, for example, have contributed to making the splitting of production processes across various (international) locations cheaper, but another part of it may also be related to the increasing free trade, which is the consequence of globalisation. It is important to realize, however, that the way we think about offshoring today is not the same as 20 years ago. At the time economists mainly used to consider offshoring an entire industry abroad, whereas now economists think in terms of certain *tasks* - which coincide with occupations rather than industries – and which are easier to outsource abroad than others (see Grossman & Rossi-Hansberg, 2008; for a theoretical model). Low-paid non-routine jobs especially cannot disappear to China or India because the workers in these jobs often offer location-based services (such as cleaning or personal care) (Blinder, 2006). Some well-paid non-routine jobs, on the contrary, can in principle be outsourced abroad. One example is the work of an architect or computer programmer. In practice, however, up until now, mainly routine occupations are outsourced abroad (Goos, Manning & Salomons, 2009a, b). One reason for this may be the relative lack of highly-skilled workers in countries such as China and India. Some economists believe that more and more well-paid jobs will disappear to these countries because the average educational level there is rising rapidly – see Blinder (2006) for an overview. Since routine occupations are situated in the middle of the income distribution, offshoring can also result in polarisation.

4.2 Skills or educational level as a measure for the labour market?

The article by Goos (2009) elaborated on the important difference between the change in demand for skills in the workplace and a worker's educational level. The main idea was that technological progress and globalization have led to an increase in the demand for abstract and service tasks at the expense of routine tasks. Because service tasks are partly used extensively in low-skilled and low paid jobs in the services industry this means that technological progress and globalization have led to an increase in the relative demand for a number of low-skilled jobs. This hypothesis thus differs from the assumption that technological progress and globalization can only lead to an increase in the relative demand for more highly educated workers.

4.3 The influence of the polarization of employment on the quality of jobs in the longer term

Although we are familiar with the most important causes of the polarization of the employment structure in Belgium and in other industrialized countries, very little empirical research has been carried out on the impact on income distribution and hence on the quality (read 'the wages') of jobs in the longer term.

In theory there are several mechanisms that can concomitantly play a role and have opposite effects on the relative compensation of the lowest paid workers (this theory has mainly been developed by Autor, Levy & Murnane (2003) and Autor & Dorn (2009)). If the relative demand for low-paid labour increases, then the relative wages in these jobs will increase, *ceteris paribus*. The relative supply of workers for these same low-paid jobs will also likely increase because a proportion of the active population, which is employed in routine jobs, will be dismissed. First, it is by no means certain that the increase in the demand is sufficiently great to cope with this influx of workers. If the relative supply increases faster than the relative demand, the relative wages for occupations which involve service tasks will drop instead of increasing. Secondly the workers who are dismissed from routine jobs are also the ones with the lowest level of productivity. A selection is then operated in the routine jobs whereby the most productive workers can retain their jobs. As a result the wages for routine jobs could increase compared with low-paid non-routine jobs. The net effect is therefore not clear *ex ante*, although it can be said that in the long term the supply effect relative to the demand effect will decrease in line with the decrease in the proportion of routine jobs (and thus the reservoir of routine workers). The selection effect, however, continues to play a role as long there are people who occupy routine jobs.

It is certainly clear that the proportion of workers in the lowest paid non-routine jobs is increasing: the income distribution is thus becoming more unequal as a result as long as the wages of low-paid non-routine jobs continue to be lower than the wages for routine jobs. If the selection mechanism is indeed relevant then there will be more people working in low-paid jobs that are overqualified for the job that they are doing.

On the other hand, polarisation naturally also means that the proportion of high-paid jobs in the economy is increasing – those jobs where computers cannot replace people, but only complete them. If this increase is stronger than the increase in the number of low-paid jobs, as was the case for Belgium and other European Member States between 1993 and 2006 (Goos, Manning & Salomons, 2009a, b), then the *average* employment quality will increase. From the perspective of a social planner this does not necessarily entail an automatic improvement: an increase in the number of people employed in low paid jobs, especially if they are also overqualified, means that more people will end up in bad employment in the labour market.

4.4 Potential solutions

But we need to realize, however, that growing income inequality is not an inevitable consequence of technological progress and offshoring. As we already argued, it can be expected that a permanent demand effect will eventually end up increasing the wages of low-paid workers who perform service tasks. We can also think of a number of other factors, which can partially absorb the effects of changes in terms of employment structure.

The labour supply could adapt itself, e.g., through the immigration of low-skilled workers and the use of students in order to meet the demand for low-paid service jobs. Although these supply factors will not improve job quality, this would mean, however, that most people would not spend their lives in such jobs and that *careers* would improve as a result. The second generation of immigrants would be able to find better jobs, as a result of assimilation and education, than their parents and in the case of students, these bad jobs are just a temporary measure. The latter aspects would have the added benefit that students – after all these are the highly skilled, highly paid employees of the future – would learn to have more respect for this type of work, as a result of their experience in low-paid service jobs. And as a consequence the quality of this type of jobs would possibly improve.

The government can also take measures to improve the quality of the lowest paid jobs: one of the most obvious measures is the regular (re)evaluation of the minimum wage. In the United States the experience is that the quality of low-paid jobs is strongly influenced by the real value of the minimum wage: in the Eighties this dropped, thus also impacting the quality of the jobs (Katz & Autor, 1999). On the other hand it has been demonstrated, convincingly, that unemployment levels barely increased as a result of changes in the minimum wages (Dickens, Machin & Manning, 2009). And the labour conditions for these low-paid workers also have to be adequate. Given the increasing demand for such jobs, this should be easier to enforce. To some extent this is already happening: there have been initiatives in the low-paid service sector to form trade unions, with similar demands in relations to dismissal rules, sick leave, etc., much like the trade unions in the industry. In this frame special attention should be given to regulating the labour conditions of workers who are hired externally via temporary employment agencies and other intermediaries (i.e., jobs that are outsourced to another company by a company in its home country). Finally, it is important that investments in education are continued: the increasing demand for highly skilled labour means that there are many opportunities for workers with a tertiary diploma. Income inequality will increase if the supply does not follow (Card & Lemieux, 2001).

5. Conclusions and policy implications

The labour market's polarisation is an important aspect of current economic reality in Belgium. This phenomenon is mainly caused by the progress of technology, which replaces workers in routine jobs with an average wage, but which is not (yet) capable of carrying out the non-routine work of low-paid and high-paid workers; and to a lesser extent by the offshoring of work to other countries. In all likelihood these trends will continue in the next few years, which may have significant consequences for wage inequality in Belgium and in other European countries.

In the short term, technological change and offshoring will help create 'good' and 'bad' jobs, but in the longer term this no longer has to be a problem. Firstly, it is important to note that on average job quality is on the increase. Secondly, although the proportion of workers in low-paid jobs will increase, their relative salary will rise if the demand effect dominates the selection and supply effects. This is more probable in the longer term, as the supply of workers in routine jobs decreases. Thus the compensation structure will adapt to the changes in the employment structure. However, empirical studies to support the existence of these theoretical relationships between qualitative and quantitative changes in the employment structure need to be conducted.

Full reference of study report(s) and or paper(s) and other key publications of the study summarised here

Goos, M., & Salomons, A. (2009a). *Kwalitatieve veranderingen in de banenstructuur in Vlaanderen en België*. WSE Report.

Goos, M., & Salomons, A. (2009b). *Kwantitatieve veranderingen in de banenstructuur in Vlaanderen en België*. WSE Report.

Goos, M., & Salomons, A. (2010). *Sectorale jobcreatie en jobdestructie in Vlaanderen*. WSE Report.

Autor, D. H., & Dorn, D. (2009). *Inequality and Specialization: The Growth of Low-Skill Service Jobs in the United States*. MIT Working Paper.

Autor, D. H., Katz, L. F., & Kearney, M. S. (2006). The Polarization of the US Labor Market. *American Economic Review*, 96(2), pp. 189-94.

Autor, D. H., Levy, F., & Murnane, R. J. (2003). The Skill-Content of Recent Technological Change: An Empirical Investigation. *Quarterly Journal of Economics*, 118(4), pp. 1279-1333.

Blinder, A. S. (2006). *Offshoring: Big Deal, or Business as Usual?*. Center for Economic Policy Studies Working Paper 149.

Card, D., & Lemieux, T. (2001). Can Falling Supply Explain The Rising Return To College For Younger Men? A Cohort-Based Analysis. *The Quarterly Journal of Economics*, MIT Press, 116(2), pp. 705-746.

Dickens, R., Machin, S., & Manning, A. (1999). The Effects of Minimum Wages on Employment: Theory and Evidence from Britain. *Journal of Labor Economics*, University of Chicago Press, 17(1), pp. 1-22.

Goos, M. (2009), Op zoek naar nieuwe inzichten en gegevensbronnen: het belang van vaardigheden op de arbeidsmarkt. *OVER.WERK, Tijdschrift van het Steunpunt WSE*, 3, pp. 8-17.

Goos, M., & Manning, A. (2003). McJobs and MacJobs: The Growing Polarization of Work in Britain. In: R. Dickens, P. Gregg, & J. Wadsworth (Eds.), *The State of Working Britain* (pp. 71-85). Palgrave MacMillan.

Goos, M. & Manning, A. (2007). Lousy and Lovely Jobs: The Rising Polarization of Work in Britain. *Review of Economics and Statistics*, 89(1), pp. 118-33.

Goos, M., Manning, A., & Salomons, A. (2009a). Job Polarization in Europe. *The American Economic Review Papers and Proceedings*, 99(2), pp. 58-63.

Goos, M., Manning, A., & Salomons, A. (2009b). *Recent Changes in the European Employment Structure: The Roles of Technology and Globalization*. Leuven: mimeo University of Leuven.

Grossman, G.M., & Rossi-Hansberg, E. (2008). Trading Tasks: A Simple Theory of Offshoring. *American Economic Review*, American Economic Association, 98(5), pp. 1978-1997.

Katz, L. F., & Autor, D. H. (1999). Changes in the Wage Structure and Earnings Inequality. In: O. Ashenfelter & D. Card (Eds.), *Handbook of Labor Economics*, 3, Amsterdam, North Holland: Elsevier.