

# Grażyna Węgrzyn

---

## Structural Changes in Employment - Opportunities and Threats for the Situation of Women on the Labour Market

---

Studia i Prace Wydziału Nauk Ekonomicznych i Zarządzania 51/3, 301-312

---

2018

Artykuł został opracowany do udostępnienia w internecie przez Muzeum Historii Polski w ramach prac podejmowanych na rzecz zapewnienia otwartego, powszechnego i trwałego dostępu do polskiego dorobku naukowego i kulturalnego. Artykuł jest umieszczony w kolekcji cyfrowej [bazhum.muzhp.pl](http://bazhum.muzhp.pl), gromadzącej zawartość polskich czasopism humanistycznych i społecznych.

Tekst jest udostępniony do wykorzystania w ramach  
dozwolonego użytku.

DOI: 10.18276/sip.2018.51/3-24

**Grażyna Węgrzyn\***

Uniwersytet Ekonomiczny we Wrocławiu

Wydział Ekonomii, Zarządzania i Turystyki

## **STRUCTURAL CHANGES IN EMPLOYMENT – OPPORTUNITIES AND THREATS FOR THE SITUATION OF WOMEN ON THE LABOUR MARKET<sup>1</sup>**

### **ABSTRACT**

The purpose of the study is to provide the assessment of employment structural changes impact on the situation of women on the labour market. The research period covers the years 2008–2015. The structure changes observed in the European Union countries confirm the convergence of employment sector structure towards highly developed economies. In the years 2008–2015 the largest number of jobs were opened in all European Union countries in the service sector. As a result of the conducted analysis it can be concluded that structural changes in employment, on the one hand, do not reduce the disproportions in female and male employment in the most feminine and masculine sections but, on the other, create opportunities for an extended employment of women in service sections requiring high qualifications.

**Keywords:** labour market, employment, structural changes

---

\* E-mail: [grazyna.wegrzyn@ue.wroc.pl](mailto:grazyna.wegrzyn@ue.wroc.pl)

<sup>1</sup> The study carried out within the framework of the project no. 2015/17/B/HS4/01021, financed by the National Science Centre.

## Introduction

Structural changes are present in all economies. It is an inevitable, quite natural and yet a necessary process. It decides about the modernization of economies and has impact on the differences in economic growth rate (Teixeira, Queirós, 2016, pp. 1636–1648). Structural changes constitute an important stimulating factor for economic growth by e.g.: the growing share of modern, technologically advanced sections (sectors), implemented innovations (Bogliacino, Pianta, 2013, pp. 649–678) or higher export (Saviotti, Frenken, 2008, pp. 201–218). The changes occurring in internal and external environment of economies are reflected in the adjusting (changing) components of economic structure. Employment represents one of the elements based on which structural changes going on in the area of economy can be observed.

The analysis of employment structure in modern economies clearly shows that the increasing volume of labour resources find employment in service sector. The employment in industry sector remains stable at a certain level, whereas employment in agriculture has been continuously decreasing. Currently, in the highly developed countries about  $\frac{3}{4}$  of labour resources are employed in the service sector. This sector is subject to intense changes, predominantly caused by the application of new information and communication technologies (ICT) and the growing demand for modern services, often completely new and unknown so far. These changes take effect in the context of global economic changes resulting from globalization, higher labour market flexibility or part time employment in many countries. The occurring structural changes, despite the similarities in their direction, result in significant disproportions between the scale of female and male involvement in particular sectors. They determine the situation of women on the labour market by exerting the specific impact on all economic areas, also including the labour market. The analysis of the situation of women in both social and economic life remains an extremely broad problem, extending by far the capacity of research carried out for the purposes of the presented study. Therefore, it was decided to narrow down the discussed subject matter to the labour market only.

The purpose of the study is to provide the assessment of employment structural changes impact on the situation of women on the labour market. The study is divided into three parts. The first one discusses the essence and methods of structural changes measurement. The second part identifies the most important trends in the

structure of economic activities affecting the composition of demand for work in the European Union countries. The third part covers the comparative analysis in the situation of women on the particular labour markets. The analysis was carried out based on two synthetic indicators, i.e.: employment rate and unemployment rate. The research period covers the years 2008–2015.

## 1. Structural changes in economy – the essence and measurement

The term “structural changes” is frequently used in economic literature, however, most often without providing its precise definition, which results in terminological confusion. In case of scientific research it is necessary to explain the essence of this phenomenon, because only then it is possible to identify, characterize and forecast structural changes. The term “change” assumes that someone or something becomes different, or when a substitution of something by something else takes place. Consequently, it requires determining the degree of changes, thus the need for measurement occurs. The concept of structure, however, refers to a construction, an arrangement, an internal organization, i.e. a certain system of elements (components) which make up an entity. Structural changes should be approached as internal economic structure changes occurring over time. It is adopted that the structure of economy reflects the relationships present between its particular elements and the entire economy (Hackl, Westlund, 1991, p. 2; Jakóbiak, 2000, p. 18). Structural changes are identified with long-term and lasting changes in the structure of economy sectors (Chenery, Robinson, Syrquin, 1986). They refer to the percentage changes of sectors and branches in total production, value added, employment and export. Structural changes in production or employment are defined as the sector specific, inter-industry and intra-industry mobility of resources and the related adaptability, i.e. the ability of economies to adapt to the changing market, demand and technological conditions (Zielińska-Głębocka, 2012, p. 62).

The natural process of structural changes is carried out in each country in accordance with “the historical path of structural changes” from agriculture to industry and next to services (Timmer, Akku, 2008). It is emphasized that the changes in GDP construction structure occur relatively slowly, however, clearly in the direction of an increasing service sector importance (Van den Berg, 2012, p. 25). The development of service sector remains an indispensable process accompanying economic development

(UNIDO, 2010). It is highlighted that services are necessary for an effective functioning of all economic sectors since they make trade transactions easier and allow the production as well as the supply of goods and different services (Schulze, 2011, p. 197). In international statistics the share of service sector in economy is most often considered the determinant of its development level. Consequently, a structural change is referred to as the “transition” of economies to more development oriented sectors which, as a result of high productivity level, stimulate their dynamic development and thus contribute to the modification of the existing economic structures (Jasiński, 2011, p. 15).

The changes occurring in employment structure of the European Union countries reflect the theory of three sectors, following which the decline of employment in agriculture took place in the industrial era, along with its increase in industry, whereas in the post-industrial epoch the industry sector’s role decline was recorded in the demand for labour resources, whereas the service sector started to play the primary role in economic development (Kwiatkowski, 1980, pp. 9–48). Currently the concept of knowledge-based economy become increasingly popular, i.e. the economy in which knowledge, understood as the ability to take action and create value, plays the decisive role in stimulating economic and social development (Madej, 2006, p. 15). Nijkamp and Siedschlag emphasize that knowledge-based economy represents a new and a very important concept, whereas the changes it causes are visible in many aspects of economy, e.g. in the form of new jobs, new products, services or types of industry (Nijkamp, Siedschlag, 2011, p. 33). The course of structural changes is characterized by certain standards depending on the level and nature of economic development. Highly developed economies, the knowledge-based ones, are characterized by the employment structure determining their structural division to sections requiring expert knowledge. Employment share in knowledge-based sections is much higher there than in the countries characterized by poor knowledge utilisation. In case of the latter employment structure in services is based on sections covering traditional services, i.e. transport and trade (Węgrzyn, 2015, pp. 271–272).

## **2. Employment structure in the European Union – comparative analysis**

In the years 2008–2015 employment in the European Union (28) went down by 3,2 million people. The decline in employment affected mainly men (decline by 4,3 million), whereas in case of women an increase by 1,1 million was recorded. Having con-

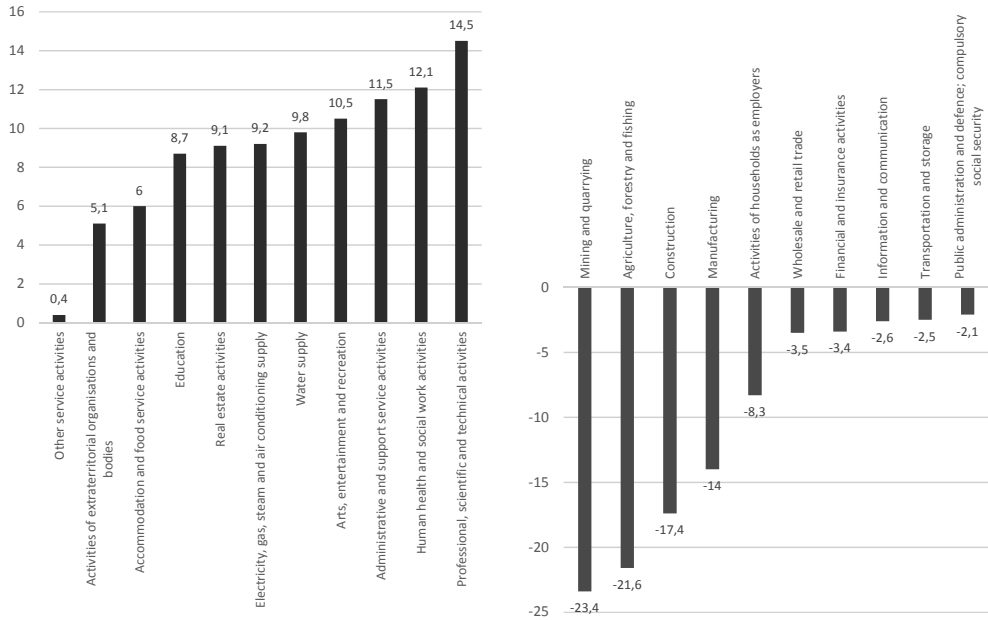
sidered the changes in particular sectors it was observed that employment in agriculture was reduced by 1,2 million, in industry by 8,1 million and in the service sector it went up by 6,1 million. (Office of the European Union, 2016).

The structure changes observed in the European Union countries confirm the convergence of employment sector structure towards highly developed economies, however, the differences between particular countries are not significant. In the years 2008–2015 the largest number of jobs were opened in all European Union countries in the service sector. The exceptionally dynamic employment increase in service sector was recorded in these countries in which the service sector was poorly developed, which is confirmed by the relatively low share of employment in the discussed sector in total employment. The share of employment by countries in the service sector in 2015 ranged from 42,0% in Romania up to 82,9% of total employment in Holland (40,9 percentage points (pp) difference). In 2008 the difference was larger and amounted to 42,3 pp (the lowest level – Romania 38,9%, the highest one – Holland 81,2%).

The service sector was the most feminized one in all countries. In 2015 working women in the sector of services made up 85,3% of total employment in the service sector in the European Union against 62,5% of working men. In particular countries the differences in female employment were significant in the service sector, however, their ongoing reduction was observed. The lowest share of working women in service sector in 2015 was recorded in Romania (49,4%) and the highest one in Holland (93,2%), the difference was 43,8 pp. In 2008 the difference was higher and presented the level of 47,2 pp.

Beyond any doubt, the largest number of jobs are currently opened in the service sector and it is also the most feminized sector. The most significant loss of jobs among women was recorded in these sections which are traditionally occupied by men (Fig. 1). The decline in the number of working women in the analysed period occurred in the following sections: B – Mining and quarrying (–23,4%), A – Agriculture, forestry and fishing (–21,6%), F – Construction (17,4%) and C – Manufacturing (–14,0%). In the years 2008–2015 the largest increase in working women was recorded in the sections M – Professional, scientific and technical activities (14,5%), Q – Human health and social work activities (12,1%), N – Administrative and support service activities (11,5%) and R – Arts, entertainment and recreation (10,5%).

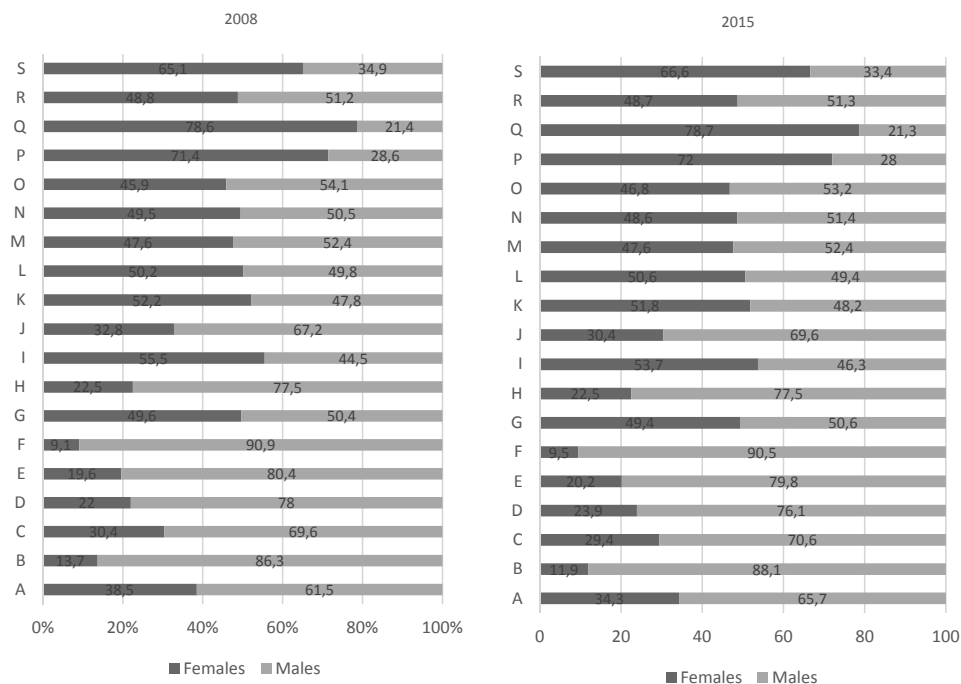
Figure 1. The change in the number of working women in the European Union by NACE Rev. 2 sections in the years 2008–2015 (%)



Source: author's compilation based on Eurostat database.

The changes in the number of working women in particular NACE Rev. 2 sections were manifested in the changes structure of working women and men. The share of women in employment structure decreased in nine sections, i.e. A, B, C, G, I, J, K, N and R, increased in eight sections, i.e. D, E, F, L, O, P, Q and S and did not change in two sections, i.e. H and M (Fig. 2). The most significant changes were observed in section A – Agriculture, forestry and fishing, where the share of working women declined by 4,2 pp (from 38,5% in 2008 down to 34,3% in 2015). The largest increase of female share in employment structure occurred in section D – Electricity, gas, steam and air conditioning supply (increase by 1,9 pp) and S – Other service activities (1,5 pp). The observed changes confirm that the most feminized economy sectors in the European Union (28) are as follows: Q – Human health and social work activities (78,7%), P – Education (72%), S – Other service activities (66,6%) and I – Accommodation and food service activities (53,7%).

Figure 2. Female share in employment in a particular NACE Rev. 2\* section in the European Union (28) in 2008 and 2015 (%)



\* NACE Rev. 2:

A – Agriculture, forestry and fishing; B – Mining and quarrying; C – Manufacturing; D – Electricity, gas, steam and air conditioning supply; E – Water supply, sewerage, waste management and remediation activities; F – Construction; G – Wholesale and retail trade; repair of motor vehicles and motorcycles; H – Transportation and storage; I – Accommodation and food service activities; J – Information and communication; K – Financial and insurance activities; L – Real estate activities; M – Professional, scientific and technical activities; N – Administrative and support service activities; O – Public administration and defence; compulsory social security; P – Education; Q – Human health and social work activities; R – Arts, entertainment and recreation; S – Other service activities.

Source: author’s compilation based on Eurostat database.

Based on the conducted analysis it can be concluded that the structural changes occurring in the European Union indicate further increase in female employment concentration in the feminized professions and sections, along with the same trend regarding male employment in the masculine professions and sections.



### 3. Women on the labour market – selected indicators

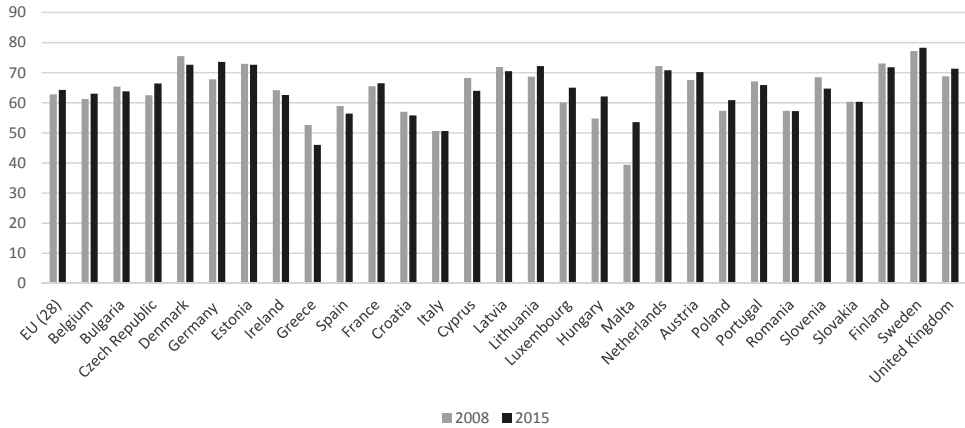
Two synthetic indicators can support the analysis of the situation of women on the labour market: employment rate and unemployment rate. Including both indicators in the analysis is justified, since while the changes in employment structure primarily depend on the changes in demand for work, the changes in unemployment rate do not reflect just the demand specific changes of labour market, but also the supply oriented ones, as well as the structural mismatch in terms of both indicators, i.e. the demand for and the supply of work.

While analysing the employment rate of women aged 20–64 in the European Union (28) it is clear that the situation of women on the labour market continues to improve. Women are becoming increasingly active in the discussed sphere. In the period 2008–2015 female employment rate went up in the European Union (28) by 1,5 pp on average against the decline in total employment rate by 0,1 pp (Fig. 3). The most significant increase in female employment rate occurred in Malta (13,3 pp). The growth higher than 5 pp was recorded in Hungary (7,5 pp), Luxembourg (5,7 pp) and Germany (5,6 pp). The largest decline of female employment rate was observed in Greece (–6,1 pp), on Cyprus (–3,9 pp), in Denmark (–3,7 pp) and in Slovenia (–3,2 pp). In the period covered by the analysis in all European Union countries, except for Romania, the situation of women was characterized by larger improvement against the situation of total labour resources.

In 2015 the average employment rate of women aged 20–64 in the European Union (28) amounted to 64,3%. The highest female employment rate, i.e. over 67% was recorded in: Sweden (74%), Denmark (70,4%), Germany (69,9%), Netherlands (69,2%), Estonia (68,5%), Great Britain (67,9%), Finland (67,7%) and Austria (67,1%). The lowest female employment rate, below 50% occurred in Greece (42,5%) and in Italy (47,2%). In the analysed period the female employment rate was characterized by an upward trend.

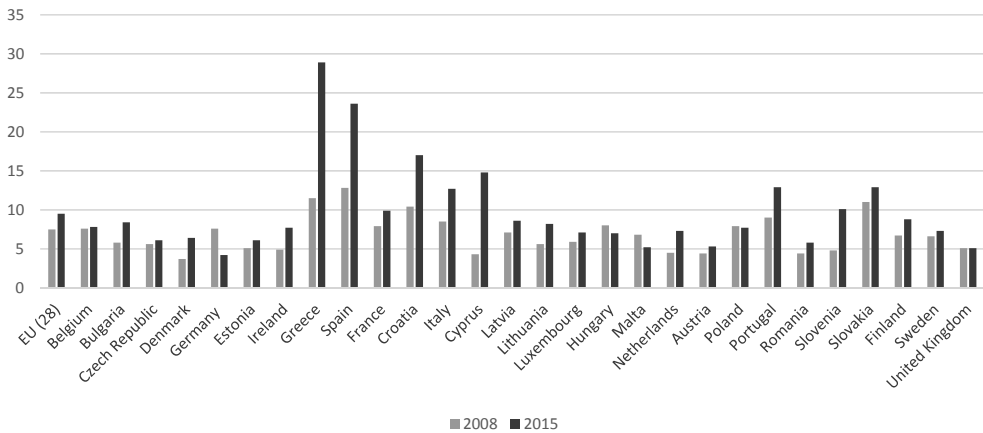
Unemployment rate is the second indicator which describes the situation of women on the labour market. In 2008 in the European Union (28) female unemployment rate was 7,5%, whereas in 2015 it presented the level of 9,5% professionally active population. The increase in female unemployment rate amounted to 2 pp and was lower than in case of male unemployment rate, which went up by 2,7 pp (from 6,6% up to 9,4%). The vast majority of the European Union countries, in the analysed period,

Figure 3. Female employment rate in the European Union in 2008 and 2015 (% of active population)



Source [http://ec.europa.eu/eurostat/statistics-explained/index.php/Archive:Labour\\_force\\_survey\\_overview](http://ec.europa.eu/eurostat/statistics-explained/index.php/Archive:Labour_force_survey_overview) (12.01.2017).

Figure 4. Female unemployment rate in the European Union in 2008 and 2015 (% of active population)



Source [http://ec.europa.eu/eurostat/statistics-explained/index.php/Archive:Labour\\_force\\_survey\\_overview](http://ec.europa.eu/eurostat/statistics-explained/index.php/Archive:Labour_force_survey_overview) (12.01.2017).

observed the increase in female unemployment rate, four countries recorded a decline in this matter, i.e. Germany (−3,4 pp), Malta (−1,6 pp), Hungary (−1,0 pp) and Poland (−0,2 pp), while in Great Britain the female unemployment rate did not change (Fig. 4). The highest increase in female unemployment rate, more than 10 pp, was recorded in Greece (17,4 pp), Spain (10,8 pp) and Cyprus (10,5 pp).

Female unemployment rate in the analysed period was lower than male unemployment rate, which confirms the more difficult situation of men on the labour market. The number of unemployed women was declining much faster than men, which was reflected in the decline of the percentage of women in total registered unemployment (from 48,2% down to 46,5%).

## Conclusions

Structural changes, consisting in the “transfer” of economies towards the more development oriented sectors are modified and modernized by the structures of economies. The significant increase in the importance of service structure in creating new jobs is observed. The service sector covers very different types of activities in services, it creates new jobs for those presenting low qualifications as well as for the highly specialized experts. It remains the most feminized sector (women constitute about 80% of total employment), thus its development opens opportunities for the improvement of female situation on the labour market. In the years 2008–2015 the European Union labour market was, on the one hand, characterized by an increase in female employment rate. Women were mainly taking up jobs in service sectors requiring specialist qualifications, i.e. M – Professional, scientific and technical activities, Q – Human health and social work activities, N – Administrative and support service activities and R – Arts, entertainment and recreation. On the other hand, women were losing work predominantly in industry and agriculture, i.e. the sectors dominated by men in total employment. It means that the changes occurring in the European Union employment structure contribute to strengthening the traditional female domination in sections considered as more feminine (health care, education) and male domination in sectors requiring bigger physical effort (agriculture, industry, construction). It seems that the existing division is not, however, the result of discrimination, but rather the reflection of both psychophysical and cultural deter-

minants related to male and female employment. It is confirmed by the structure of employment in the sections where physical strength or protectiveness do not matter that much, but specific qualifications only.

## References

- Aghion, Ph., Howitt, P. (2009). *The Economics of growth*. Cambridge: MIT Press.
- Bogliacino, F., Pianta, M. (2013). Profits, R&D, and innovation—a model and a test. *Industrial and Corporate Change*, 3 (22), 649–678.
- Chenery, H., Robinson, S., Syrquin, M. (1986). *Industrialization and growth: A comparative study*. Published for the World Bank: Oxford University Press.
- Grossman, G.M., Helpman, E. (1991). *Innovation and Growth in the Global Economy*. Boston: MIT Press.
- Hackl, P., Westlund, A.H. (1991). *Economic Structural Change Analysis and Forecasting*. International Institute for Applied Systems Analysis. Berlin: Springer-Verlag.
- Jakóbiak, W. (2000). *Zmiany systemowe a struktura gospodarki w Polsce*. Warszawa: Wydawnictwo Naukowe PWN.
- Jasiński, L.J. (2011). *Sektory przemysłu i wiedzy. Ewolucja struktury gospodarki*. Warszawa: Wydawnictwo Politechniki Warszawskiej.
- Kwiatkowski, E. (1980). *Teoria trzech sektorów gospodarki*. Warszawa: Wydawnictwo Naukowe PWN.
- Madej, Z. (2006). *Gospodarka oparta na wiedzy wkracza w świat paradygmatów*. In: E. Frejtag-Mika (ed.), *Teoria i praktyka ekonomii a analiza konkurencyjności gospodarowania*. Warszawa: Difin.
- NACE Rev. 2 (2008). *Statistical classification of economic activities in the European Community*. Eurostat, Methodologies and Working papers. Luxembourg: Office for Official Publications of the European Communities.
- Nijkamp, P., Siedschlag, I. (2011). *Innovation, Growth and Competitiveness. Dynamic Regions in the Knowledge-Based World Economy*. Berlin: Springer-Verlag.
- Office of the European Union (2016). *Employment and Social Developments in Europe 2015*. Luxembourg: Publications Office of the European Union.
- Saviotti, P., Frenken, K. (2008). Export variety and the economic performance of countries. *Journal of Evolutionary Economics*, 2 (18), 201–218.
- Schulze, C. (2011). Policy recommendations on innovation in services. In: *Promoting Innovation in the Services Sector: Review of Experiences and Policies*. New York–Geneva: United Nations Economic Commission for Europe, United Nations.

- Teixeira, A.A.C., Queirós, A.S.S. (2016). Economic growth, human capital and structural change: A dynamic panel data analysis. *Research Policy*, 8 (45), 1636–1648.
- Timmer, P., Akku, S. (2008). *The structural transformation as a pathway out of poverty: Analytics, empirics and politics*. Centre for Global Development. Working Paper, 150.
- UNIDO (2010). *Structural Change in the World Economy: Main Features and Trends*. Vienna: United Nations Industrial Development Organization.
- Van den Berg, H. (2012). *Economic Growth and Development*. London: World Scientific Publishing.
- Węgrzyn, G. (2015). *Innowacje w sektorze usług a zmiany strukturalne w zatrudnieniu*. Wrocław: Wydawnictwo Uniwersytetu Ekonomicznego we Wrocławiu.
- Zielińska-Głębocka, A. (2012). *Współczesna gospodarka światowa. Przemiany, innowacje, kryzysy, rozwiązania regionalne*. Warszawa: Wolters Kluwer.

## ZMIANY STRUKTURALNE W ZATRUDNIENIU – SZANSE I ZAGROŻENIA DLA SYTUACJI KOBIET NA RYNKU PRACY

### Streszczenie

Celem opracowania jest ocena wpływu zmian strukturalnych w zatrudnieniu na sytuację kobiet na rynku pracy. Opracowanie składa się z trzech części. W pierwszej omówiono istotę oraz sposoby pomiaru zmian strukturalnych. W drugiej zidentyfikowano najważniejsze trendy w strukturze działalności gospodarczej, wpływające na kompozycję popytu na pracę w krajach Unii Europejskiej. Część trzecia zawiera analizę porównawczą sytuacji kobiet na poszczególnych rynkach pracy. Okres badawczy obejmuje lata 2008–2015. Zachodzące zmiany w strukturze zatrudnienia w Unii Europejskiej przyczyniają się do utrwalania tradycyjnej dominacji kobiet w sekcjach uważanych za bardziej kobiece (opieka zdrowotna, edukacja), a dominacji mężczyzn w sektorach wymagających większego wysiłku fizycznego (rolnictwo, przemysł, budownictwo).

**Słowa kluczowe:** rynek pracy, zatrudnienie, zmiany strukturalne

**Kody JEL:** J21, J23