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## WORKFORCE SEGMENTATION MODEL: BANKS' EXAMPLE

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**Abstract.** This article aims at a presentation of a workforce segmentation model deriving from M.J. Piore and P.B. Doeringer's concept of the dual labour market, as well as taking account of personnel policy instruments and perception of employment relationships. The results of theoretical analyses of workforce, enabled to build a new theoretical model of workforce segmentation. Such an approach has not been attempted at so far. In this model, the dimensions include the personnel policy instruments and perception of employment relationships, demographic, social and economic variables and analysis levels. This approach is a novelty, because the subject matter of research has usually comprised either quite narrow, selected aspects of employment, without reference to workforce segmentation, or wide, general considerations on workforce segmentation, without taking into account the specificity of its respective areas, let alone the micro-, mezzo- and international comparison perspective. Thus, developed model combines a typical business approach (taking into consideration various areas of employment) with an economic one, based on the notion of workforce and its segmentation.

**Keywords:** workforce segmentation; workforce segmentation model; personnel policy instruments; perception of employment relationships; banks; Poland; Russia

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### 1. Introduction

Flexible forms of employment, discrimination, polarization, pauperization, the precariat – these terms are characteristic of the modern labour market. On the one hand, the economic growth that we can see in a majority of countries in Europe and the world, results in a rise in wages, an increase in the demand for labour and a fall of the unemployment rate, on the other, however, the change is unbalanced in various workforce segments. The situation in the labour market is specific for the following: young employees, people with disabilities, people over 50, women (relative to men), inhabitants of rural areas (in particular ones situated far from larger urban centres) and immigrants (Garbat, Paszkowicz 2016; Jarmołowicz, Kalinowska-Sufinowicz 2012; Mączyńska 2011;

Paszkowicz 2018). Labour market segmentation and workforce segmentation have their consequences in the area of education, training, poverty, social disparities, social security, etc. (Cain 1976). At the macroeconomic level, actions are taken so that the state should intervene in the market mechanism and level occupational inequality, an example of which was the introduction in Poland in 2017 of the minimum wage hourly rate.

Own observations, conversations with bank employees, discussions among experts dealing with the issue of employment, banking and Russian economy, as well as a review of domestic and foreign literature, allowed to identify an existing research gap with respect to workforce segmentation having regard to respective personnel policy instruments, perception of employment relationships and assessment levels (micro-, mezzo- and international comparisons). Authors, in their studies, usually focus either on an analysis of one employment area (Akhtar, Nadir, Nadir 2016; Bhati, De Zoysa 2013; Bąk-Grabowska, Jagoda 2015; Čiutienė, Petrauskas 2012; Elegido 2013; Fukuyama 1996; Fulk, Bell, Bodie 2011; Gębska 2018; Hajdin 2005; Heyes 2011; Jaźwiński 2017; Kotliński 2018; Kramer 2010; Lurie, Frenkel 2002; Seligman 1997; Soniewicki 2015; Wyrwa, Piątyśzek-Pych 2012) or on general considerations regarding workforce segmentation from the perspective of the entire economy or sector (Barron, Norris 1976; Battisti 2008; Berger, Piore 1980; Cain 1976; Garz 2013; Jarmołowicz, Knapieńska 2011; Musiał-Paczkowska 2003; Osberg, Apostle, Clairmont 1987; Wieczorek-Szymańska 2015); whereas in-depth analyses are missing. A deeper analytical and methodological approach is not there, either, in order to study and optimize workforce segmentation statistical research tools. There is no transition from the micro- level, via the mezzo- one up to the international comparison level. Thus, developed model combines a typical business approach (taking into consideration various areas of employment) with an economic one, based on the notion of workforce and its segmentation.

In this research, the main question is: how workforce segments are created in banks and what determines these? It was assumed that workforce segmentation may be analyzed at the level of detailed analyses of personnel policy instruments and perception of employment relationships which remain under the influence of factors related to the employee him/herself or the bank that employs him/her.

This article aims at a presentation of a workforce segmentation model deriving from M.J. Piore and P.B. Doeringer's concept of the dual labour market, as well as taking account of personnel policy instruments and perception of employment relationships. To accomplish the research aim the author used source literature in English and Polish on economics, human resource management, sociology and industrial and organizational psychology (EBSCO, The ACM Digital Library, BazEkon, Emerald, ProQuest).

The article presents the definition of workforce segmentation, being well-established in the theory of economics. Then, selected labour market segmentation theories are characterized. A workforce segmentation model in banks is depicted and a discussion of its results is held with regard to the labour market segmentation concept by M.J. Piore and P.B. Doeringer.

## 2. Literature review

It is assumed that a basis for intervention in the market mechanism should be a purposeful, coordinated diagnosis of segmentation. On the other hand, in respect of internal segmentation, taking place within an enterprise, familiarity with workforce diversity and awareness of disparities occurring between employees, not only allows one to defend oneself against allegations of discrimination, but also provides a foundation for implementation of a coherent recruitment, training, promotion, etc. policy. The segmentation itself, pertaining to the employment within an enterprise, may have both negative and positive outcomes. In macroeconomic terms, workforce segmentation is sometimes an intended means of the human resources policy. At the microeconomic level, one should be aware, for example, of price discrimination in the labour market. This means that, knowing the specific

character of his/her employees, the employer may diversify their wages, even if the work they perform is similar. This is favoured by pay secrecy, often popular in some sectors or industries (for instance, in the banking sector).

Labour market segmentation concepts separate segments of the entire labour market, whereas workforce segmentation often separates specific positions according to their characteristic features. Some authors think that the boundaries between segments separate various enterprises, some, on the other hand, that labour market segments are created inside enterprises and economic sectors as well (Zwiech 2013; Barron, Norris 1976). Nevertheless, relying on workstations in a number of enterprises, one may attempt to picture labour market segmentation. For instance, people motivated by employers by many incentives employed in a number of enterprises, may create a subsector of highly motivated persons. P. Piasecki is of a similar opinion: "in case of reproduction of similar activity patterns in a number of organizations in a given labour market (e.g. within the same industry), workforce segmentation may be transformed into labour market" (2018, pp. 9, 27). The author also adduces arguments for attribution of workforce segmentation to the discipline of economics (lack of specific outcomes of segmentation aiming to increase the organizational effectiveness, use economic theories, combine the micro- and macroeconomic perspectives). Workforce segmentation has not lived to see a clear and plain theory and researchers dealing with workforce segmentation most frequently rely on economic concepts of labour market segmentation.

It was assumed that workforce segmentation is a relatively constant state in which employees are divided into groups (segments) according to the use of personnel policy instruments, perception of employment relationships, wherein the essential criteria for the segmentation are employee-characteristic demographic and social variables and bank-characteristic economic variables. This approach is typical of economics which considers results of human resources management. On the other hand, it was assumed workforce segmentation, after L. Osberg, R. Apostle and D. Clairmont, as a set of employees and workstations (1987) that have undergone the process of segmentation. The Table 1 presents selected, most popular, concepts of labour market segmentation.

**Table 1.** Concepts of labour market segmentation

| Researcher               | Main assumptions  |
|--------------------------|---|
| C. Kerr                  | <p>Segments</p> <ol style="list-style-type: none"> <li>1. Free (lack of mobility barriers, minor regulations)</li> <li>2. Institutionalized internal (various internal labour markets of different operating principles); it includes the following: <ul style="list-style-type: none"> <li>- market of specific professions</li> <li>- intra-corporate market</li> </ul> </li> </ol> <p>Reasons for segmentation:</p> <ul style="list-style-type: none"> <li>- limitations of mobility between respective groups in the labour market caused by various qualifications or restrictions regarding territorial mobility</li> <li>- lack of information</li> <li>- formal and informal rules</li> <li>- employers' associations and their informal agreements</li> <li>- trade unions</li> <li>- collective agreements</li> <li>- public administration activities</li> </ul> <p>Competition between segments is limited.</p> |
| B. Lutz, W. Sengenberger | <ol style="list-style-type: none"> <li>1. Unqualified workforce market (highly limited promotion opportunities, employees have common knowledge, positions do not require expertise, high employee mobility)</li> <li>2. Qualified workforce market (employees have universal qualifications, standardization and licensing/chartering of skills, the employer can be changed easily)</li> <li>3. Labour market for persons having qualifications adapted to the needs of individual workplaces (specific requirements for the employee, limited possibility to change the employer, long-term contracts of employment, great importance of professional experience)</li> </ol>   |

|  |  |
|--|--|
| P.B. Doeringer, M.J. Piore: Dual labour market concept                                     | 1. "Primary" workplaces (original sector; usually large profitable enterprises, with trade unions available, legal protection, high job security, career development and promotion opportunity, career stability, high remuneration, strong identification with one's workplace, low personnel fluctuation, low unemployment rate within this segment); this segment is divided into the following:<br>a) upper segment (independent; work implying initiative and creative activity)<br>b) lower segment (subordinated; executive work implying high discipline in the workplace and reliability)<br>2. "Secondary" workplaces (secondary sector; opposite of the primary sector)   |
| P.B. Doeringer, M.J. Piore, J.T. Dunlop: Theory of the internal and external labour market | 1. Internal labour market (with limited access from outside, long-term employment relationships, career ladder, supplementation of price allocation with non-price allocation); it can be divided into the following:<br>a) basic segment (key positions, opportunity for promotion, career stability)<br>b) marginal segment (routine work, limited promotion opportunity, lack of stability)<br>2. External labour market (equilibrium created under the influence of pay variability)<br>Competition takes place within a given area, whereas the factors triggering segmentation include, as follows: specific qualifications not applicable in other segments, training or on-the-job training, customs as to employees' wages and deployment |
| Segmentation theory, L. Thurow   | 1. Pay competition segment (employees compete with respect to wages)<br>2. Workplace competition segment (employees compete with respect to qualifications, level of education)  |
| Concept of traditional – statistical division of the labour market                         | Segment operational principles (principles of allocation) may be the same.<br>The labour market is divided due to various professional, demographic or spatial criteria.<br>Markets are separated of individual professions, branches, lines of business and regions.<br>There is no free movement of manpower between professions, regions and areas of the economy.<br>There are labour markets for individual professions.  |
| Conflict theory  | Segments:<br>1. Insiders (employed at a given enterprise, having specific qualifications the cost of which has been borne partially by the enterprise)<br>2. Entrants (employed at a given enterprise, the enterprise has not borne significant costs in relations to employees' upgrading their qualifications)<br>3. Outsiders (people from the outside of the enterprise, the weakest of the three groups)  |

*Source:* Berger, Piore 1980; Cain 1976; Garz 2013; Golinowska 2001; Jarmołowicz, Knapieńska 2011; Kerr 1977; Kryńska 1996; Kryńska 2000; Kwiatkowski 2019; Leszczyński 2008; Loveridge, Mok 1980; Maniak 2003; Musiał-Paczkowska 2003; Osterman 1987; Pocztowski 1993; Polkowska 2016; Puzio-Waławik 2015; Reich, Gordon, Edwards 1973; Szambelańczyk 2001; Wachter 1974; Wąsowicz 2007; Zawada 2017; Zwiech 2013

Only selected segmentation theories are characterized in the article, particular attention is paid to M.J. Piore and P.B. Doeringer's concept of the dual labour market, which provides the basis for further analysis. The source literature describes amply other theories as well (Zwiech 2013; Piasecki 2018). Hence, repeating these would be redundant.

In the traditional segmentation approach, the primary labour market expands during high economic growths and gives way to the secondary market when the economy cools down. Simultaneously, any transition between the sectors is made difficult due to the fact that secondary segment employees have limited opportunities to acquire qualifications that are necessary in the primary segment (Kryńska 2000). In M. Battisti's opinion, segmentation is presently caused by work qualities, not the employee's traits (2008). On the other hand, research carried out by M.L. Wachter demonstrates that there are flows between the segments of the labour market and typical, bisegmental division into better and worse employees does not occur (1974, p. 678).

### 3. Theoretical model of workforce segmentation

The employment segmentation model based on research carried out in banks in Poland and Russia will be presented below (Davydenko, Kaźmierczyk, Romashkina, Andrianova 2018; Kaźmierczyk, Chinalska 2018; Kaźmierczyk, Żelichowska 2017; Davydenko, Kaźmierczyk, Romashkina, Żelichowska 2017; Aptacy,

Kaźmierczyk 2016). Several of the most important processes taking place in the last 30 years in banks in Poland and Russia have included, as follows:

- privatization of banks,
- opening of new banks (particularly in the first 2 decades of capitalism),
- taking over of a majority of the Polish banking sector by foreign capital,
- bank restructuring,
- bank mergers and acquisitions,
- revoking licences of a great number of banks in Russia,
- centralization of banking operations both in Poland and in Russia.

The above-mentioned main processes gave grounds for strategic changes at the level of individual banks. These, in turn, affected the organizational and personnel sphere (Pajak, Kamińska, Kvilinskyi 2016; Baszyński 2008). The developed employment segmentation model can be used for each sector, not just the banking sector (which was used as an example).

The theoretical framework of this research was the theory of workforce segmentation, wherein, contrary to the existing analyses presented in the source literature are not concentrated on general considerations relating to the entire market, but on selected personnel policy instruments (Chart 1):

- motivation,
- management by objectives,
- forms of employment;

and perception of employment relationships:

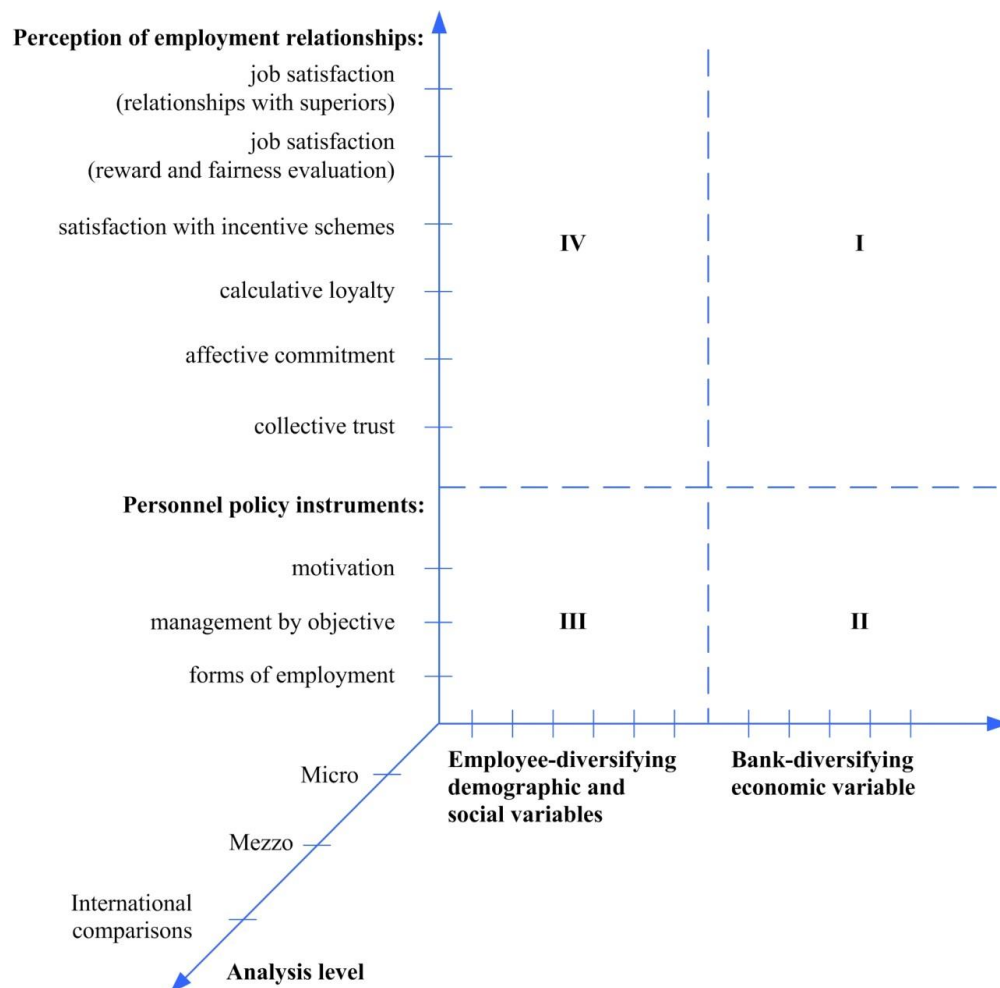
- job satisfaction – relationships with superiors,
- job satisfaction – reward and fairness evaluation,
- satisfaction with incentive schemes,
- loyalty – calculative loyalty,
- loyalty – affective commitment,
- collective trust.

The list of personnel policy instruments and perception of employment relationships can be extended and changed. In other words, any changes within the personnel policy instruments produce an eventual result in changes occurring in the perception of employment relationships. An analysis of personnel policy instruments and perception of employment relationships allows to create a more in-depth picture and draw regularities regarding banking labour market segments, particularly in the international and comparative contexts. In addition, the whole analysis is referred to the three levels, as mentioned above: micro-, mezzo- and international comparisons. In a majority of hitherto studies, a workforce economic analysis at the micro- level is not continued at the mezzo- and international comparison ones. Presented research goes further and focuses on analyzing micro- stimuli, which allows to grasp individual patterns of responding to stimuli coming from the economic environment, to generalize about tendencies at the mezzo- level and to compare the results at the international level – with regard to data from different countries (for example from Poland and Russia). Potentially there are many levels of mezzo- (in the context of constructivism there is practically an unlimited number of them).

Individual personnel policy instruments and perception of employment relationships are like building blocks, of which one may arrange various figures, able to show various relations. Within the framework of the project, only certain issues have been selected (the remaining personnel policy instruments and aspects of perception of employment relationships have already been, to a large extent, analyzed: Davydenko, Kaźmierczyk, Romashkina, Andrianova 2018; Kaźmierczyk, Chinalska 2018; Kaźmierczyk, Żelichowska 2017; Davydenko, Kaźmierczyk, Romashkina, Żelichowska 2017; Aptacy, Kaźmierczyk 2016).

Labour market segmentation or workforce segmentation has been dealt with by, to name a few (Table 1). They divided the market/workforce into submarkets, subsectors, subsegments, characterized by different parameters. There are "primary" and "secondary" segments, in many respects. Some authors think that the boundaries between segments separate various enterprises, some, on the other hand, that labour market segments are created inside enterprises and economic sectors as well (Zwiech 2013; Barron, Norris 1976).

One of the most popular and best developed concepts of labour market segmentation is M.J. Piore and P.B. Doeringer's concept of the dual labour market. They divided the labour market into two segments: "primary" and "secondary". Traditionally, the primary segment is characterized by higher wages, bigger career stability, better job security, better career development and promotion opportunities. On the other hand, employees situated in the secondary workforce segment receive lower wages, their work is characterized by smaller career stability, worse job security, worse career development and promotion opportunities. Such a division is interesting and frequently accurate, however, it does not take into account the industry's specificity, the influence of personnel policy instruments and perception of employment relationships. Considering a more analytical approach and expanding the theory to include personnel policy instruments and perception of employment relationships, demographic, social and economic variables and the micro-, mezzo- and international comparison perspectives, offers a more precise analysis and drawing more accurate conclusions.



**Chart 1.** The model of employment segmentation

*Source:* author's own elaboration.



The proposed model comprises three dimensions:

- personnel policy instruments and perception of employment relationships,
- employee-diversifying demographic and social variables and bank-diversifying economic variables,
- micro-, mezzo- and international comparison layers.

Personnel policy instruments (incentives, forms of employment, management by objectives) influence perception of employment relationships: relationships with superiors and reward and fairness evaluation, satisfaction with incentive schemes, calculative loyalty, affective commitment, collective trust; Chart 1, vertical axis). Analyzing empirical data, one needs to take account of any relationships between them. Presented analysis of personnel policy instruments and perception of employment relationships for employee-characteristic demographic and social variables and bank-characteristic economic variables (horizontal axis) provides a basis for drawing conclusions on segmentation, and in selected cases – also on employment discrimination. In the chart 1, developing workforce segments are easily noticeable (for instance, women employed in the same as men use a smaller number of incentive instruments). A "segmentation map" of a kind is created which shows, in graphic terms, where differences between employees are accumulated (the area between the vertical and horizontal axes). A workforce segmentation map can be analysed:

- vertically (then we answer the question what employees or what banks belong to the primary/secondary workforce segment, having defined previously what the primary and secondary mean),
- horizontally (then we answer the question how individual workforce policy instruments and perception of employment relationships are differentiated).

A supplementation of the picture is taking into account the micro-, mezzo- and international comparison approaches. In other words, the bidimensional model may be additionally superimposed by a more or less aggregated perspective (the third axis: "analysis level"), reaching as far as the level of international differences, for instance between Poland and Russia (Davydenko, Kaźmierczyk, Romashkina, Andrianova 2018; Davydenko, Kaźmierczyk, Romashkina, Żelichowska 2017). Inasmuch as demographic, social and economic variables, depicted on the horizontal axis, and personnel policy instruments and perception of employment relationships, depicted on the vertical axis, as discreet data, the variables on the "analysis level" axis may be treated as continuous variables. The transition from the micro- approach, via the mezzo- one, up to the international comparison approach is smooth and consistent with the systemic and constructivist paradigm.

Presented research may be considered as comparative research. It is needed to identify employees' goals and adequately adjust and develop the personnel policy, as implemented. Furthermore, a comparative analysis offers an opportunity to derive knowledge from other people's experiences and internationalize one's research approach. Such an attempt was took with respect to Poland and Russia (Davydenko, Kaźmierczyk, Romashkina, Andrianova 2018; Kaźmierczyk, Chinalska 2018; Kaźmierczyk, Żelichowska 2017; Davydenko, Kaźmierczyk, Romashkina, Żelichowska 2017; Aptacy, Kaźmierczyk 2016).

A various demographic, social and economic variables which could potentially affect workforce, as well as the personnel policy instruments and perception of employment relationships under analysis were considered in empirical studies (Davydenko, Kaźmierczyk, Romashkina, Andrianova 2018; Kaźmierczyk, Chinalska 2018; Kaźmierczyk, Żelichowska 2017; Davydenko, Kaźmierczyk, Romashkina, Żelichowska 2017; Aptacy, Kaźmierczyk 2016). Among these the following were found:

- characteristics of bank units (country of origin; size of the locality; type of bank with respect to majority capital – domestic, foreign; type of bank with respect to organizational form – commercial, cooperative bank; bank unit – headquarters, regional branch, operating agency; type of work performed – front office, back office),

- as well as characteristics of employees (age; sex; education; experience in current employer; experience in banking; aggregate professional experience; position occupied – non-executive, lower, middle and senior management; disability; absence from work; declared sportive activity; hourly workload).

The abundant general instructions and personal information parts of the questionnaire used in the survey enabled a discerning, in-depth analysis of the issues in question, and separation of workforce structure and segments within given personnel policy instruments and perception of employment relationships. Each of these was analyzed in search of segments to be separated taking account of the above characteristics (Davydenko, Kaźmierczyk, Romashkina, Andrianova 2018; Kaźmierczyk, Chinalska 2018; Kaźmierczyk, Żelichowska 2017; Davydenko, Kaźmierczyk, Romashkina, Żelichowska 2017; Aptacy, Kaźmierczyk 2016).

Within the proposed model, a "segmentation map" is developed taking account of any differences between workstations. The "primary" segment would be, for instance, one that is characterized by more stable forms of employment or a large number of incentives applied towards employees (within personnel policy instruments), as well as a higher level of loyalty, employee satisfaction and collective trust (within perception of employment relationships). Taking into account demographic, social and economic variables, on the other hand, makes it possible to check which employee or bank groups are characterized by a larger number of "primary" subsegments, and which ones – by a larger number of "secondary" subsegments. By means of an example, it may turn out that sex is decisive for being assigned to the "secondary" subsegment within the aspect of the number of incentives, but to the "primary" one within the aspect of collective trust. Thereby, one may check which demographic, social and economic variables cluster around themselves the "primary" subsegments, and which – the "secondary" ones. A repetition of such "primary" or "secondary" workforce subsegments within a number of personnel policy instruments and perception of employment relationships may confirm the hypothesis that a given demographic, social and economic variable does determine the assignment to either the "primary" or "secondary" workforce segments. For instance: if the female gender correlates with a smaller number of incentive instruments, more restrictive implementation of management by objectives, lower employee satisfaction, lower affective commitment and smaller collective trust, then one may pose a hypothesis that women belong to "secondary" employment areas. This will also confirm that women are discriminated against. By the same token, one may address discrimination based on disability or other personal characteristics.

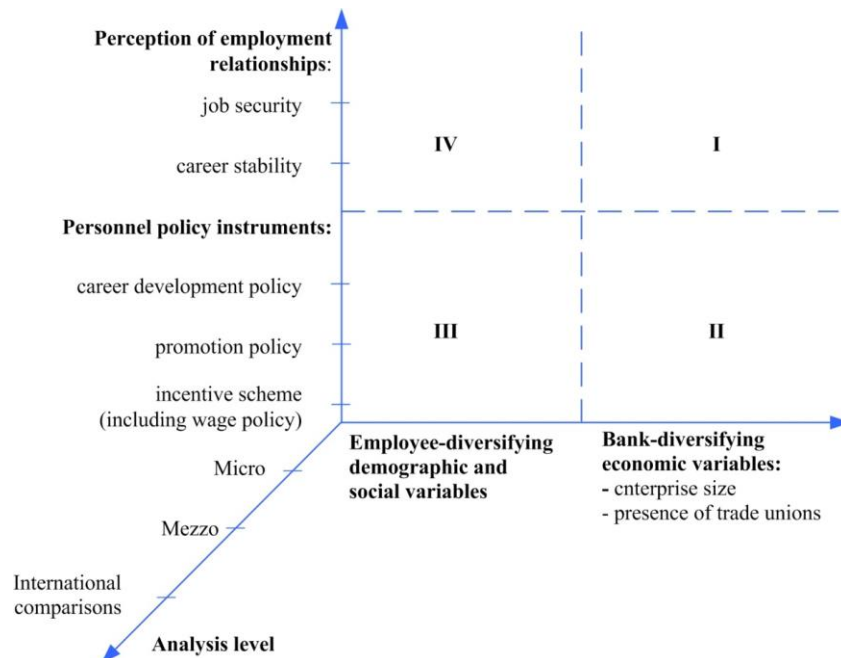
Determination which segment is primary and which secondary, depends eventually on the researcher and conditions in which the study is done. He/she assumes, for example, that the primary segment includes such work that is characterized by a larger number of incentive instruments, higher collective trust and less frequent application of flexible forms of employment. One can also assume that the primary workforce segment is such segment in the case of which primary personnel policy instruments and perception of employment relationships outnumber secondary ones. In other words: where primary features aggregate more often secondary ones. Thus, the model is flexible and allows application in various conditions and different markets. Results may also be classified as primary/secondary according to employees or employers' opinions and expectations.

Presented research has been done under the influence of constructivism and systemic approach. It was assumed that everything that surrounds us is subjective, and pursuing any goals, as set (including profitability, efficiency, etc.) is often disturbed by extra-economic factors. This is particularly noticeable in the labour market which is very strongly connected with human emotions. In addition, every market participant, as well as a researcher, assumes his/her own definition of rationality, which arises out of his/her knowledge and experiences. Hence, every time an event, conduct or phenomenon is evaluated as rational or irrational, it is done subjectively. Both a researcher and market participants are not immune from a number of cognitive biases and influence of emotions. In addition, the assessor (researcher) often knows only selected aspects of the problem being analysed (Kaźmierczyk 2011).



#### 4. A critical analysis of M.J. Piore and P.B. Doeringer's segmentation model and the author's reflections

It is frequently thought that the concept of labour market segmentation by M.J. Piore and P.B. Doeringer is the best developed and popular among all labour market segmentation theories (Cain 1976, p. 1222). It has also become the basis for presented theoretical analyses. Economics, in its history, has repeatedly come into close relations with other sciences, including psychology. Already A. Smith referred to "The Theory of Moral Sentiments". The neoclassical mainstream separated economics a bit from the influence of other disciplines, which arose, among others, from the analytical approach, but also from the desire to argue for economics as an independent field. If until (approximately) the oil crises of the 1970s, successive economic schools quite clearly drew the boundaries of their operation and emphasized their autonomy, then later a return occurred in search of ties with other disciplines. The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel has been awarded many times to scientists combining economics with psychology, the behavioural approach or ethics and philosophy, the examples of which are D. Kahneman, R. Thaler and A. Sen. To sum up, modern economics (or its part, at least) is related quite closely to other sciences. One could even hypothesize that, as opposed to earlier periods, there is not a single economic mainstream. Eclecticism prevails, whereas other sciences serve as, so to say, a "drive" for economics. One can have the impression that behavioural economics is on the rise today. It is within this trend, taking account of the systemic approach and constructivism, that the model developed in present paper has been created. M.J. Piore and P.B. Doeringer characterize the workplace from the point of view of the employee. They treat such workplace as the primary one which offers more desirable (according to popular belief) qualities: starting with high remuneration, up to the nature of the employer's enterprise as a large. The model developed in the present paper, contrary to M.J. Piore and P.B. Doeringer, is not limited to the prescribed criteria of dividing the workplace into the "primary" and "secondary". In this sense, it is more flexible. Simultaneously, one may assign the characteristics of the primary and secondary segment of the labour market, as proposed by M.J. Piore and P.B. Doeringer, to personnel policy instruments, perception of employment relationships or economic variables, as characteristic of the employer, which are taken into account in developed model (Chart 2).



**Chart 2.** The bank workforce segmentation model vs. M.J. Piore and P.B. Doeringer's labour market segmentation model

Source: author's own elaboration.

Job security taken into account by M.J. Piore and P.B. Doeringer (in accordance with the systemic and constructivist approach) is a subjective characteristics and depends on assessment made by the employee. The situation is similar with career stability (or its lack – as in the case of job insecurity). The two classification criteria belong, therefore, to perception of employment relationships (the vertical axis). On the other hand, career development and promotion opportunities are a result of the personnel policy, as applied by enterprises, and, therefore, are classified among personnel instruments (the horizontal axis). The model proposed includes remuneration among incentive tools. Enterprise size and availability of trade unions are, on the other hand, economic characteristics of the employer (the horizontal axis). As one can see, therefore, the model proposed in the article seems to be a generalization of the model by M.J. Piore and P.B. Doeringer.

Additionally, a number of other criteria and factors may appear that determine segmentation, which have not been taken into account by M.J. Piore and P.B. Doeringer. Furthermore, in the context of dynamic changes of the modern labour market, doubts are raised as to the categorical adoption of what is "primary" and what is "secondary" for the employee. Perhaps working for big corporations (which do not allow for development and require one's activity within a rigid framework of rules and policies) is not something desirable by the employee, and thus cannot be classified as belonging to the primary workforce segment. A similar opinion is presented by M. Garz (2013), who considers that nowadays a number of temporary positions fall within the scope of the primary labour market, whereas full-time employees sometimes belong to the secondary workforce segment. It seems to be a much more pro-employee approach to enable the employee to express what he/she expects him/herself, and then to classify the workplace as a primary or secondary one according to the employee's indications. Similarly, one may have doubts as to the operation of trade unions (and their effectiveness, particularly in Central and Eastern European countries and post-Socialist states).

M.J. Piore and P.B. Doeringer acknowledged that one's transfer into the primary segment of the labour market is limited by a pre-assumed career ladder, employee evaluation modes and dismissals (Kryńska 2000). These factors may be taken into consideration in developed model as well, within employment policy tools. It seems that the remuneration aspect is the least controversial, in which case a vast majority of employees (if not all) would like to earn as much as possible.

The model by M.J. Piore and P.B. Doeringer met the needs of the 1960s. It was supposed to help fight poverty and marginalization of certain social groups. The segmentation model proposed in this paper is a response to modern problems of the labour market: the polarization of the labour force, the entering the labour market of people with specific features, such as persons with disabilities, but also the millennial youth, whose characteristics are very different from their parents' (of Generation X), or grandparents' (of the baby boomer generation). Without taking account of the characteristics of the modern employee, it is impossible to talk about a modern analysis of the labour market, and hence an analysis of workforce segmentation. This place is filled in by the model proposed in this paper (the horizontal axis).

Thus, the model places emphasis on the empowerment of the employee, who ceases to be "an organism on which economic procedures are performed", either by the employer (within a personnel policy), or the state (within the labour market policy). The modern labour market has changed over the last half century and its assessment through the prism of invariable statements and beliefs is misleading.

A dynamic approach (used in the model, as developed) works in practice much better; it is based on segmentation taking account of variable criteria depending on market conditions. The model also allows to grasp changes as they occur.

The situation is the more interesting that in the face of the indiscernible unemployment, wage increases and the generally positive mood in the labour market, there are still workforce segments in which low wages prevail, as well and other "secondary" factors analyzed in M.J. Piore and P.B. Doeringer's model, and the developed model. The improvement of the general situation in the labour market does not mean the same improvement for every market participant. Application of a wider (than in the classical concept of the dual labour market) spectrum of segmentation evaluation criteria enables presentation, as objectively as possible, of secondary workforce segments (called "ghettos" in the classical segment analysis). Also within the internal labour market, such notions are referred to as "glass ceiling", "glass walls" and "sticky floor" (Kalinowska-Nawrotek 2005). This means that the primary and secondary segments occur in the market in macro terms, but also in the trade and sector perspectives.

M.J. Piore and P.B. Doeringer noticed a strong influence of extra-economic factors in the labour market. In this aspect, their assumptions are coincident with – the model, as developed in this paper, takes into account a number of demographic, social and economic criteria and factors.

The author is aware that testing the model in banks only does not have a universal character, but rather a sectoral one. Nevertheless, there are a number of arguments in favour of such a course of action (Davydenko, Kaźmierczyk, Romashkina, Żelichowska 2017; Kaźmierczyk, Davydenko, Romashkina, Andrianova 2018; Kaźmierczyk, Chinalska 2018; Kaźmierczyk, Żelichowska 2017; Kaźmierczyk, Davydenko, Romashkina, Żelichowska 2017; Aptacy, Kaźmierczyk 2016; Kaźmierczyk 2014; Aktan, Turen, Tvaronaviciene, Celik, Alsadeh 2018).

The developed model is universal and can be applied in many sectors, not only in banking. In addition, M.J. Piore and P.B. Doeringer combined the primary labour market segments with "primary" enterprises, i.e. ones that produce goods or services which are in high demand. It can, obviously, be disputed whether banks belong to such a segment, still, at least within the traditional thinking, banks are so classified. It should be borne in mind, however, that the banking profession has pauperized, it is more easily available for people without specialist training and there is pressure for sale and specialization which, in combination, lead to routinization and accordization (Kaźmierczyk 2014).

In case of the dual labour market, analyses are carried out mainly from a demand-side point of view (Kryńska 2000), in the exactly the same way as in the developed model, asking bank employees' opinion. In M.J. Piore and P.B. Doeringer's model, the situation of a given employee tends to become fixed. People occupying better positions usually stay there for a long time and do not let others take their place. Furthermore, the stronger an employee's situation (in the model it is depicted by means of a larger number of personnel policy tools or perception of employment relationships, in which they classify themselves as the primary workforce segment), the more durable is his/her primary situation. It also has to do with the notion, as known in economics, of path dependency. A similar opinion is expressed by I. Bludnik (2014).

Positive qualities support each other, the same as negative ones loop and create unemployment, poverty and other "ghettos". The developed model, like the one by M.J. Piore and P.B. Doeringer (Barron, Norris 1976; Kryńska 2000) focuses mainly on the employee, however, it can also be used (following adaptation) to analyze unemployed people.

**Table 2.** Common and varying elements in the model by M.J. Piore and P.B. Doeringer and the model proposed in the paper

|   |   |
|---|---|
| Assumptions and results in common for the model by M.J. Piore and P.B. Doeringer and the model developed in the paper   | Results of the author's article supplementing the hitherto literature   |
| Institutionalism as the starting point  | Additional consideration for influences of behavioural economics, systemic approach and constructivism  |
| Analysis of segmentation from the point of view of the employee   | Additional consideration for the employer's situation   |
| Generalization of conclusions concerning segmentation   | Addition of the micro-, mezzo- and international perspective  |
| Using specific labour market segmentation criteria (large enterprises, trade unions, job security, career development and promotion opportunity, career stability, high remuneration, strong identification with one's workplace) | Additional adoption for the analysis of a number of other criteria. The list of personnel policy instruments and perception of employment is open. (E.g., as noticed by E. Kryńska (2001) and A. Musiał-Paczkowska (2002), labour market segmentation is connected with application of flexible forms of employment, which was included in developed model and analyzed empirically (Każmierczyk, Chinalska 2018).) |
| Taking account of a large influence of extra-economic factors   |   |
| Division of workforce into segments   | The number of segments results from current market conditions   |
| Separation of workforce segmentation criteria   | Lack of presupposed set of criteria (the criteria depend on the objectives of the segmentation analysis)  |
| Focus on the employee   | (Following adaptation) ability/possibility to use the model with respect to unemployed people and people who are passive in the labour market   |

Source: author's own elaboration.

In case of M.J. Piore and P.B. Doeringer's model, one of the reasons for the occurrence of the primary and secondary labour market, was the willingness to use the latter by the former (Leszczyński 2008, p. 31). In the developed model, any antagonisms between market participants matter, but demographic and social variables are also important that characterize the employee, as well as economic variables characterizing the employer. To sum up, the assumptions and results of presented research are similar to M.J. Piore and P.B. Doeringer's studies, however, they deepen the hitherto output of economic literature (Table 2).

E. Kwiatkowski assesses that since 1970s, within economic studies on the labour market, analyses started with certain facts from the reality of the labour market, which were then used to create a theoretical model taking these facts into account, and then the model was confronted with reality, testing it on market data by means of statistical tools. He also adds that in this way economics departed from institutional specificity and became alike mainstream economics (2019, p. 5). Presented research, on the one hand, combines an approach similar to institutionalism (workforce segmentation in a manner being similar to M.J. Piore and P.B. Doeringer's), and, on the other follows closely the algorithm described by E. Kwiatkowski (Contradictions in the institutionalized and neoclassical approaches to the dual labour market are presented by M.L. Wachter (1974, p. 641)).

## Conclusions

The developed model of workforce segmentation allows for taking into account the basic classification of workforce due to the demographic and social features of employees and economic characteristics of employers. The model is universal and can be applied in many sectors, not only in banking. In addition, when analyzing these areas, it refers to groups of people for "primary" and "secondary" work sub-segments (regardless of how these sub-segments will be determined and how they will be separated). The developed model allows for a flexible definition of what is a primary and secondary sub-segment of employment, taking into account various personnel policy instruments and the perception of employment relationship.

Summing up, the most important arguments for the novelty of the analyses, as conducted, and, simultaneously, arguments for carrying out further comparative studies of workforce segmentation in banks with respect to selected personnel policy instruments and perception of employment relationships, include, as follows:

- possibility to draw in-depth and detailed conclusions regarding selected personnel policy instruments and perception of employment relationships,
- possibility to take account of the specificity of these instruments and the specific character of a country,
- possibility to analyze relations between personnel policy instruments and perception of employment relationships (without detriment to the accuracy of the analysis, one may simultaneously analyze broader connections between these areas within the sector),
- cognitive curiosity to analyze issues that have not undergone examination yet (also due to difficulties in accessing data concerning banks, in particular relating to the Russian banking sector),
- conviction that Asia (including Russia) and the other BRICS countries – Brazil, Russia, India, China and South Africa – are an interesting area which are offered an opportunity to develop dynamically in the future,
- the banking sector is one that has undergone turbulent changes, which favours observation of a number of diverse personnel processes,
- the banking sector is, at the same time, a leader in implementation of a number of organizational and personnel solutions, which enables later reference of the results to sectors where changes are only occurring now or will occur,
- the analysis of the two banking sectors being at different levels of development (the Polish and Russian ones) allows to forecast any workforce progress in banks, as well as, in practical terms, to optimize personnel processes.

The next stage of research should be the collection of the empirical results related to policy instructions and perception from employee relationship in order to determine the workforce segmentation segments in banks. In order to verify the developed model, the following are worth expanding:

- territorial scope, to include the another country (besides Poland and Russia);
- subjective scope:
  - use both employee self-evaluation and assessment made by employers,
  - carrying out the empirical research and obtaining results in other sectors of the economy, outside the financial sector;
- objective scope:
  - career path motivators,
  - individuals' freedom of choice,
  - comparison of the measurement results obtained (in empirical study) with results obtained through application of other tools,
  - additional areas of employment,
  - perception of personnel policy and its instruments (people managing organizations should be aware of the fact that employees evaluate whether the organization cares for their development, e.g. by means of training, application of adequate forms of employment, and, as a consequence, whether they become attached to it and stay with it for longer or, not feeling such attachment, look for other employment opportunities. Personnel PR should be of importance. In addition, managers should increase their employees' awareness within the personnel process, in order to shape pro-employee attitudes as a key element of the personnel strategy determining the competitive advantage in the labour market),
  - analysis of objectives, benefits and costs resulting from workforce segmentation from the point of view of the employee, employer and government;
- temporal scope – repetition of the research in 3-year cycles in order to seize the dynamics and impact of the business cycle.



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