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INFORMAL EMPLOYMENT IN UKRAINE AND FORMATION OF INSTITUTIONAL CONDITIONS OF ITS MINIMIZATION

The article presents the results of the study on the structure and scale of spread of informal employment in Ukrainian labor market. Based on the analysis of the received estimates, the author makes a social and economic profile of the average worker involved in informal labor relations. The peculiarity of the study is that all estimates are considered separately for hired labor and self-employment, which allows to identify the internal heterogeneity of the structure of informal employment in Ukraine.

According to the results of the econometric modeling, the main socio-economic, demographic, settlement, professional and sectoral factors that determine the involvement of the individual in informal employment in Ukraine are identified.

Described the basics of legal regulation of labor relations as a formal institution influencing the dynamics of informal employment. Established the relationship between the level of flexibility in the regulation of the labor market in the country and the extent of informal employment among its population. It has been shown that in economies with flexible regulation, as a rule, informal employment is lower.

Based on assessments and analysis of the flexibility of labor market regulation in Ukraine by such components as hiring, working hours and staff reductions (rules and costs), bottlenecks in the national legislation have been identified that can cause increased informal employment, which in turn helped determine the main institutional conditions for its minimization.

Keywords: *informal employment, employees, self-employment, microdeterminants, flexibility of labor market regulation*

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The problems of ensuring decent working conditions, as well as social and legal protection of the informally employed, underpayment of taxes and insurance premiums due to self-employment without official registration and unregistered labor relations with employees, payment of wages "in envelopes" all turn informal employment into a challenge to sustainable development of the country, and therefore determine the relevance of studying this phenomenon.

The purpose of the paper is to identify the extent of the spread and clarify the structure of informal employment in Ukraine, as well as to identify factors (micro-economic determinants[2]) that push employees to choose it. The peculiarity of the study is that all assessments are carried out separately for wage labor and self-employment, which makes it possible to identify the internal heterogeneity of informal labor relations that exist in Ukraine's labor market. It is necessary to know and understand the difference in the characteristics of employees and the factors that determine the involvement of the latter in a particular status and type of employment in order to justify the institutional conditions that will reduce informality and support the transition to a well-established employment relationship.

The economists and sociologists of different countries for many years have devoted their works to informal employment in the context of identifying its forms, signs, causes, expansion scale, effects on economic growth and consequences for the employee, society, and state. The discussion of the problems of informal labor relations began after the research by the British anthropologist and sociologist K. Hart, who at the request of the International Labor Organization (ILO), studied the urban labor markets in Ghana in 1971. Distinguishing between two possibilities of receiving income by the city labor force - hiring and self-employment, it is in relation to the latter that the scientist for the first time applies the concept of "informality" [1].

Analyzing current foreign publications, one should note a significant contribution to the theoretical and empirical studies of informal employment by scientists such as N.Fiess, M.Fugazza & W.Maloney, I.Günther & A.Launov, R.Hussmanns, D.Kucera & L.Roncolato, Loayza & J.Rigolini, A.Oshchepkov, N.Vyshnevska, V.Gimpelson and R. Kapeliushnikov.

Among Ukrainian scientists who have conducted research on theoretical, methodological, and practical understanding of the problems of informal labor relations in the labor market of Ukraine and their impact on the economy, we should highlight V. Blyzniuk, T. Burlai, M. Vedernikova, O. Iolkina, V. Kostrytsia, Yu.Kulikova, O. Kupets, E. Libanova, I. Petrova, Yu. Kharazyshvili, O. Tsymbal, etc.

Having analyzed the publications (by domestic and foreign scientists) we suggest that the study of informal employment and the risks associated with it still remain a "blank space" due to the complexity and heterogeneity of this phenomenon, and a wide range of its causes and manifestations. There is an objective need for further study of the factors that determine the involvement of individuals in informal employment in Ukraine, in particular the focus on the phenomenon's micro economic

[2] They should be understood as personal factors of influence - demographic, settlement and socio-economic characteristics of workers and their jobs.

determinants - demographic, settlement and socio-economic characteristics of workers and their jobs. Knowing the characteristics and behavior of the "target audience" as derivatives of the institutional environment is important, because such data will help to identify the institutional conditions for the transition from informal to formal labor relations in the national labor market. All this together determined the purpose of the presented article.

Main material. The State Statistics Service of Ukraine classifies employees by status according to the recommendations of the 15th International Conference of Labor Statisticians of January 28, 1993 [2]. As a result, the entire employed population is divided into wage-earners - persons who have entered into a written (or oral) employment agreement (contract) with the administration of the enterprise, institution, organization, or a physical person on the conditions and payment of employment, or self-employed - persons who, unlike employees, independently carry out their work based on the organization and conduct of economic activity of a physical or legal person, are responsible for the effectiveness and efficiency of this activity, as well as for fulfilling obligations related to others, in particular regarding the fulfillment of the terms of employment contracts with employees, etc. This category of persons includes: employers; own-account workers; unpaid working family members.

In Ukraine, 84% of the working population (on average in 2014-2019) were engaged in wage work. The analysis of its structure showed that 97% of employees of enterprises, such as legal entities, had written indefinite employment contracts (97.5%) or definite employment contracts (2.5%). As for employees hired by physical entities, only half of them (53.3%) registered their employment in writing, while the rest (46.6%) entered into short oral contracts.

Among self-employed workers (16% of all employed in the country, on average in 2014–2019), one in two workers carried out their activities without any registration in private farms and almost one in four workers - as an physical person-entrepreneur. It is worth noting that the self-employed are completely dominated by the own-account workers (91%), followed by employers (7%) and the rest 2% are unpaid working family members. Given the content and structure of self-employed work, the author will use the term "self-employment" to denote it in further statements of the research results.

By the type of job in a survey on economic activity of the population of Ukraine, employment is divided into formal and informal[3]. Combining the type of job with employment status, we identify four alternative states of the employee in the labor market: formal and informal employment and, accordingly, formal and informal self-employment.

[3] Guidelines for the statistical definition of informal employment were adopted during the 17th International Conference of Labor Statisticians in 2003 [3]. The provisions of this document, taking into account the national experience of studying and analyzing labor market indicators, formed the basis of the Methodology for measuring informal employment in Ukraine, approved by the order of the State Statistics Committee dated 23.01.2013 № 16 [4].

Hence, the entire employed population of Ukraine comprises 72.1% formally employed, 4.4% formally self-employed, 12% informally employed and 11.6% informally self-employed (Fig. 1). The overall level of informal employment (on average in 2014-2019) was 23.6%, including 14.3% for wage employment and 72.6% for self-employment.

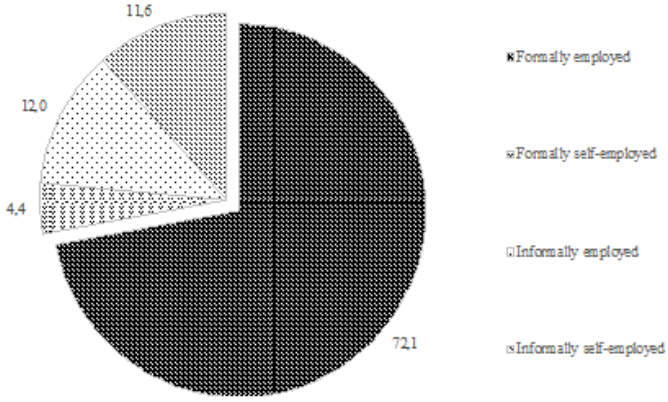

Fig. 1. The structure of Ukraine's employed population by status and job type, *% of total employed, on average for 2014-2019*

Source: calculated by the author according to sample surveys of household economic activities.

Informal employment is in fact outside the systems of social security and labor legislation and poses a threat to decent work, which in the ILO concept is interpreted as "productive labor that is free, under normal conditions, develops and does not degrade human dignity, provides fair pay, social guarantees, non-discrimination in the workplace, ensuring the full range of labor rights, as well as the ability to realize the abilities and personal aspirations of human" [5, p. 567].

For example, the difference between formal and informal employees in the level of compliance with the norms of labor legislation of Ukraine can be seen from Table 1.

Table 1

Assessment of the level of compliance with labor legislation: the right to social guarantees provided by current legislation, *% of employees in the group*

Criterion	Formally employed	Informally employed
Payment of a single contribution to the obligatory state social insurance (pension, in case of unemployment, due to temporary incapacity for work, from an accident at work)	100.00	25.16
The right to paid annual leave	100.00	7.88
The right to paid sick leave	100.00	2.57

* On average for 2014-2019.

Source: calculated by the author according to sample surveys of the population on economic activity.

Thus, only 3% of informally employed had a right for paid sick leave, 8% had a right for paid annual leave, and 25% were those for whom the employer paid a single contribution to the compulsory state social insurance.

Who are they, the informally employed workers in Ukraine? To understand this concept, we will build profiles of employee groups, which are separated by status and job type and assess the level of informality by various socio-demographic characteristics among this country's employed (Table 2).

Table 2

Employment of Ukraine by status and job type: a descriptive analysis

Features	Structure, %				The level of informal employment, % *of the entire employed by relevant characteristics*	The level of informal self-employment, % *of the entire employed by relevant characteristics*
	Formally employed	Formal self-employment	Informally employed	Informal self-employment		
Gender:						
Women	50.93	37.37	40.04	43.50	10.86	10.50
Men	49.07	62.63	59.96	56.50	15.06	12.63
Average age*, years*	40	42	38	43	–	–
Age groups:						
15–24 years	6.72	2.59	11.27	9.80	19.59	15.17
25–29 years	13.64	8.50	16.63	10.92	16.07	9.39
30–39 years	28.80	30.59	30.54	22.23	14.05	9.11
40–49 years	25.86	33.50	23.88	22.80	12.18	10.35
50–59 years	21.59	22.15	16.16	23.23	9.99	12.78
60–70 years	3.38	2.67	1.51	11.01	4.94	32.03
Marital status:						
Married	63.65	74.95	54.3	65.93	11.21	12.12
Single	19.03	11.44	27.42	19.49	17.99	11.40
Divorced	14.37	11.68	15.92	9.34	14.96	7.82
Widow	2.95	1.92	2.37	5.23	9.97	19.61
Place of residence						
Urban	75.81	82.25	71.45	22.04	13.45	3.69
Rural	24.19	17.75	28.55	77.96	12.11	29.45
Workplace:						
Employment by place of residence	85.87	93.73	78.06	95.38	11.79	12.83
Employment not by place of residence	14.13	6.27	21.94	4.62	20.86	3.91
The level of education						
Higher education	38.38	42.87	16.02	8.14	6.50	2.94
Completed or partially completed higher education	22.81	22.76	17.01	13.24	10.59	7.34
Technical and vocational education	23.84	18.85	37.05	29.51	18.57	13.17
General secondary education	14.96	15.51	29.92	49.11	18.67	27.28
Professional occupation:						
Legislators, senior civil servants, executives, managers	8.00	40.93	2.94	0.25	4.90	0.38
Professionals	23.60	5.94	3.42	1.15	2.53	0.76
Specialists	15.24	5.25	4.87	1.27	5.36	1.24
Technical staff	4.03	0.19	1.63	0.06	6.88	0.21
Workers in the trade and services sector	14.71	31.81	31.78	4.54	25.16	3.20

Table 2 (continued)

Skilled agricultural and forestry workers	0.80	1.56	1.44	0.68	20.87	8.74
Skilled workers with a tool	11.18	5.53	20.93	11.71	22.24	11.07
Workers for maintenance. operation and control of technological equipment	12.95	6.90	10.95	2.53	12.72	2.62
Simple professions	9.49	1.89	22.02	77.81	15.32	48.21
Sector:						
Agriculture. forestry and fisheries	7.16	4.85	8.39	76.26	7.17	58.07
Industry	23.17	6.34	10.16	2.1	7.23	1.33
Construction	3.52	4.04	19.09	11.94	37.99	21.16
Wholesale and retail trade Temporary accommodation and catering	16.13	61.59	40.21	5.22	26.34	3.05
Transport, warehousing, postal and courier activities	7.35	7.34	5.9	1.42	11.88	2.55
Information. telecommunications. business services	8.77	8.16	4.17	0.97	7.51	1.55
Public administration and defense, education. health care	31.24	1.19	0.75	0.14	0.44	0.07
Other activities	2.64	6.50	11.34	1.95	38.31	5.87
Enterprise size						
Micro- (up to 10 employees)	15.76	96.53	69.53	99.96	25.24	32.31
Small (no more than 50 employees)	35.33	2.91	22.99	0.03	10.61	0.01
Medium-sized and large (more than 50 employees)	48.92	0.55	7.48	0	2.72	0
Form of economic management:						
State (municipal) enterprise. organization. institution	44.41	0	0.18	0	0.08	0
Business association, association, corporation, concern, consortium, company, joint venture	31.82	0.1	7.59	0.01	4.18	0
Private, rental, family business, private organization (institution, establishment), farm, registered as a legal entity	18.82	14.35	32.62	0.18	23.28	0.12
Entrepreneurs with registration (or without) their activities as an individual	0.37	85.47	10.93	25.72	17.29	36.22
Employment in individual households (personal driver, babysitter, domestic servant, etc.)	0	0	7.37	0	99.72	0
Employment as individual entrepreneur	4.58	0.08	41.31	0.44	61.9	0.58
Private peasant economy	0	0	0	73.65	0	100

* On average for 2014-2019.

Source: calculated by the author according to sample surveys of household economic activities.

Thus, informal employment is characterized by a larger share of men than a similar job in the official segment (the difference is 11 percentage points). On the contrary, informally self-employed lag behind their formally employed colleagues by 6 percentage points by the share of men. The gender composition of registered self-employment is somewhat shifted in favor of men than in other groups, which is likely to indicate a higher (on average) willingness of men to take risks and participate in entrepreneurial activities. Women, on the other hand, prefer social guarantees, better working conditions and benefits offered in formal employment. However, when formal employment is not possible, women tend to make decisions about informal employment with self-employment status more often than men do.

The average age of informally employed workers is the lowest (38 years). This group of employees is dominated by people of the age category who are less inclined to think

about paying social insurance contributions.

The share of employees under the age of 25 among the informally employed significantly exceeds their share among the formally employed (9.8–11.3% vs. 2.6-6.7%), that may be evidence of the prevalence of improper registration of labor relations at the stage of young peoples' entry to the labor market.

The share of elderly people (60+) among formally employed - both hired and self-employed - is about the same (3% for each subgroup) and is significantly higher among the informal self-employed (11%). The opportunities for people above retirement age to find hired job in the formal economy are very limited, and the low pension replacement rate pushes them to informal self-employment.

Taking into account the "young face" of informal employment, it is not surprising that the largest proportion of single people is observed there.

Rural areas, compared to the city, provide more opportunities for informal self-employment, which is evidenced by the indicators obtained on the axis of the city/village. Work outside the place of residence is more typical of hired labor (especially informal), which is mostly formed by rural residents. If these residents do not find an acceptable job in their villages, they are eager to start work, regardless of the registration of labor relations and outside their settlements.

As to educational background, the informally employed are clearly inferior to those formally employed. Thus, while among the informally employed the share of persons with complete higher education is 8–16% (self-employed and hired), then among the formal the figure is 38–43% (hired and self-employed). And vice versa, workers with a low level of education (secondary education) in informal employment constitute 30-50% (hired and self-employed), while in the official segment they only amount to 15%.

The distribution of registered non-hired employees has shifted sharply in favor of the first professional group, which includes managers. Which is not surprising because this employment status includes the opportunity for individual business. Trade and service workers are also widely represented here. Together, these two occupational groups accommodate 70% of the formally self-employed. The professional structure of formal employment is more uniform. Regarding the professional composition of informally hired labor, 75% of them are concentrated in three professional groups: workers in the field of trade and services (32%); skilled workers with tools (21%); and the simplest professions (22%). Informal self-employment is most widely represented by simple unskilled labor (about 80%).

The professional staff is fully consistent with the sectoral structure of informal employment. Thus, 76% of all undeclared self-employment is concentrated in agriculture. And in combination with construction, these two industries account for 90% of such work. Trade, construction and industry are key to informal employment. Almost 2/3 of formal self-employment is concentrated in trade. A characteristic feature of formal employment is the high share of employees in the areas of public administration and defense, education and health care (30%), which is explained by the practical impossibility to avoid legal registration of labor relations in institutions, organizations and structures with budgetary funding.

Informal employment in Ukraine is associated with micro and small enterprise. Thus,

firms with up to 10 employees account for 70% of total informal employment, and almost 100% of undeclared self-employment.

By the form of economic management, the distribution of informal employment is as follows. 70% of total unregistered employment is concentrated in physical persons - entrepreneurs (41.3%) and in private, leased, and family enterprises or farms registered as a legal entity (32%). In general, as the author's estimates show, formal sector enterprises account for 86.7% of total informally employed. In other words, the formal sector comprises the vast majority of jobs without proper registration of labor relations and compliance with the provisions of labor legislation.

Informal self-employment is mostly concentrated in private farms (about 75%). Lack of employment alternatives, on the one hand, and the desire of the rural population to prevent poverty and provide the necessary income for themselves and their families, on the other, encourage villagers to self-employment in private farms. The status of private farms, according to current legislation allows to avoid registration, accounting and control over their activities.

Analyzing the prevalence (level) of informality among the employed population by various socio-demographic characteristics, a greater variation in the indicators of informal self-employment was revealed. Thus, with an average value of 11.6% in Ukraine as a whole, the level of informal self-employment is 32% among the elderly (60-70 years), 29.5% - among the employed living in rural areas, 27.3% - among those employed with secondary general education, 48.2% - among those employed in simple unskilled labor, 58.1% - among those employed in agriculture, 21.2% - in construction, 32.3% - in microenterprises and 87% - in economic entities of the informal sector.

The opposite pole is represented by workers with complete higher education (2.9%), technicians (0.2%), managers (0.4%) and professionals (0.8%) employed in industry (1.3%), in the field of information, telecommunications and business services (1.6%), as well as in public administration, education and health care (0.1%).

Thus, the willingness to participate in informal self-employment is more often expressed by the elderly. Retirees live in rural areas, have a low level of education, and perform simple unskilled work (see Table 3) in agriculture and construction. Among the reasons that push rural retirees to this type of employment are insufficiency of their pension benefits to meet personal needs[4] and limited employment opportunities in the formal economy.

Table 3

Common professions of informally self-employed

Generic names of profession	Share in informal self-employment, *%*
9211 Elementary occupations in agriculture	**74.75**
7133 Plasterers	2.83
5230 Retail trade from trays and on markets	2.53

[4] For example, according to a nationwide monitoring survey of adult population, which was conducted in May 2019. It was found out that the subjectively determined monthly income per family member, sufficient for normal life, is 4 times higher than the average pension payment in that period [6, 7].

Table 3 (ending)

9322 Elementary occupations in the industry (other, except fitter's work, handicrafts)	2.08
7129 Builders, repairmen and steeplejacks	1.65
8322 Motor vehicle drivers and vehicle maintenance workers	1.44
5220 Sales assistants	1.37
7141 Painters	1.17

Note: The table shows occupations whose share in informal self-employment is not less than 1% (on average for the period 2014-2019).

Source: calculated by the author based on according to sample surveys of household economic activities.

Table 4

Common professions among informal employees

Generic names of profession	**The share in informal self-employment**, *%*
5220 Sales assistants	15.07
5230 Retail trade from trays and on markets	7.47
8322 Motor vehicle drivers and vehicle maintenance workers	6.56
9322 Elementary occupations in industry	6.00
9211 Elementary occupations in agriculture	5.94
7133 Plasterers	2.86
7122 Bricklayers	2.83
9333 Loaders	2.64
5169 Protective service workers	2.45
7129 Builders, repairmen and steeplejacks	2.38
5141 Hairdressers, make-up artists	2.02
5122 Cooks	1.87
9313 Elementary occupations in housing construction	1.83
7231 Motor vehicle mechanics and repairers	1.80
9132 Maintenance workers, cleaners in offices, hotels and other establishments	1.71
5123 Waiters, waitresses and bartenders	1.46
7212 Welders and flame cutting torch operators	1.34
7141 Painters	1.24
8331 Agricultural and forestry machinery workers	1.15
7422 Carpenters	1.01

Note: The table shows occupations whose share in informal self-employment is not less than 1% (on average for the period 2014-2019).

Source: calculated by the author according to sample surveys of household economic activities.

Informally hired workers are represented by young, unmarried men, with vocational education, employed outside their place of residence, working in the sphere of sales and services, and by skilled workers with tools and the easiest occupations (see Table 4) in trade, activities for temporary accommodation and catering and construction.

Formal employment accumulates mainly women, with a high level of education,

professionals in the fields of public administration, education, health care and industry. Formally, the self-employed are more often men with higher education who live in cities, managers whose activities are concentrated in the areas of trade, temporary accommodation and catering.

Presented descriptive analysis provides information about the relationship of status and type of employment with the monitored characteristics of the individual. However, these results are two-dimensional and it is not clear whether the relationship with a particular factor is significant in itself *ceteris paribus*. Therefore, in the next step, to assess the impact of certain demographic, settlement and socio-economic characteristics of the individual on his involvement in a particular type and status of employment (formal or informal, hired or self-employed) the author uses multinomial logistic regression (Table 5).

Table 5

Employment for the inhabitants of Ukraine by status and job types: econometric analysis

Variables	Conditional probability			
	Formally employed	Formal self-employment	Informally employed	Informal self-employment
Gender (female = 1; male = 0)	0.0179***	-0.0213***	-0.0061*	0.0095***
Age	-0.0015	0.0062***	0.0003	-0.0050***
Quartile deviation by age	0.0000*	-0.0001***	-0.0000*	0.0001***
Marital status (married = 1; single, including divorced, widow/widower = 0)	0.0023	0.0109***	-0.0228***	0.0096***
Place of residence (urban = 1; rural = 0)	0.0209***	-0.0011	0.0160***	-0.0357***
Living in the capital (Yes = 1; No = 0)	-0.0233**	-0.0260***	0.0521***	-0.0028
Employment by place of residence (Yes = 1; No = 0)	-0.0411***	0.0257***	-0.0540***	0.0693***
Professional occupation (Workers in the trade and services sector - *base)*				
Legislators, senior executives, managers	0.0565***	0.1289***	-0.1196***	-0.0659***
Professionals	0.1847***	-0.0194***	-0.1231***	-0.0422***
Experts	0.1444***	-0.0211***	-0.0872***	-0.0361***
Technical employees	0.2138***	-0.0454***	-0.0973***	-0.0712***
Skilled workers in various industries	-0.0039	-0.0235***	-0.0007	0.0281***
Workers for maintenance, operation and control of technological equipment	0.0757***	-0.0262***	-0.0088	-0.0407***
Simple professions	-0.1238***	-0.0422***	0.0530***	0.1130***
Sectoral specialization (wholesale and retail trade. Temporary accommodation and catering - *base*)				
Agriculture, forestry and fisheries	0.0369***	-0.0667***	-0.1605***	0.1903***
Industry	0.2843***	-0.0824***	-0.1697***	-0.0322***

Table 5 (ending)

Construction	-0.1243***	-0.0644***	0.0561***	0.1326***
Transport, warehousing, postal and courier services	0.1543***	-0.0476***	-0.1244***	0.0178**
Information, telecommunications, business services	0.1719***	-0.0504***	-0.1158***	-0.0057
Public administration, education, health care	0.3817***	-0.0939***	-0.2332***	-0.0546***
Other activities	-0.1025***	-0.0238***	0.1084***	0.0179***

Note: region is controlled. Statistical significance of the coefficients is indicated as follows: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Source: calculated by the author based on sample surveys of household economic activities, combining data sets for 2014-2019.

Age can be useful for starting own business and it gives employees the opportunity to gain capital and experience. As retirement approaches, investing time and capital in business may seem less attractive due to the reduced time horizon for making a profit. Thus, we note a ∩-shaped relationship between age and the probability of formal self-employment, in other words, young and old people are less likely to engage in declared business activities, while in the middle part of the ∩-shaped curve we observe increased activities. In case of informal self-employment, the situation is reversed.

Type and status of employment is influenced by marital status of the individual. Thus, marriage increases self-employment (both formal and informal) and, on the contrary, reduces the involvement in informal employment.

Significant effects are observed along the city/village axis. In particular, living in a city increases the probability of hired labor (formal and informal) and reduces informal self-employment. At the same time, living in the capital encourages informal employment and reduces the participation in formal employment (both employed and self-employed).

Non-residential employment increases the participation in hired labor (both formal and informal).

Compared to the reference group (trade and service workers), the probability of informal self-employment is higher for skilled workers in various industries and for the elementary occupations. The latter significantly increase the risk of informal employment. The probability of formal employment is higher for managers, for professionals and experts, for technical staff who perform ancillary, office work for managers, professionals and experts, and for workers who service various equipment. The probability of formal employment is lower when the job does not require professional qualifications. Participation in formal self-employment is greater only for managers compared to trade and service professions.

The chance to become informally self-employed in agriculture is by 19 percentage points higher than a similar chance in trade, and in construction, it is by 13 percentage points higher. Participation in informal employment is higher in construction, and as workforce hired by household employers. As for the sectoral profile

of formally employed, compared to trade, it is more common in the areas of public administration and defense, education, health care, industry, transport, as well as in the sector of information and telecommunications. Formal self-employment in all these areas is less likely, compared with the reference group.

Informal employment leads to significant losses both in social and economic terms. In particular, the author [8] showed that relocation of workers to the informal segment of employment does not contribute to the growth of labor productivity, and hence - to the growth of the country's economy.

The presence of significant amount of informal employment in Ukraine, among other things, might be the evidence of "failures" in the institutional system, which hinder the creation of formal jobs and direct the whole process towards informality.

One of such institutions that affects the labor market in general and the dynamics of informal labor relations in particular, is labor legislation. Each economy has its own system of laws and regulations that mediate the relationship between workers, employers, unions and government. On the one hand, labor market regulation protects workers from exploitation, discrimination in employment or unfair dismissal, and provides a certain predictability of employment agreements (contracts). On the other hand, as evidenced by the results of various empirical studies, labor markets can work inefficiently if they are over-regulated, which in turn leads to loss of productivity and employment [9-16].

All existing methods for quantitative measurement of rigidity (flexibility) of the regulation of labor relations can be roughly divided into three groups [17]. Within this study, we are interested in the group whose methods include scoring direct and indirect (procedural) costs of employers related to the compliance with labor legislation and further aggregation of the indicators into an integrated index. In particular, the OECD indicators of employment protection legislation (EPL) and the employment rigidity-flexibility index based on the World Bank data are calculated in this way.

The main elements of the index of legislative protection of employment were described in [18]. Estimates for Ukraine were presented calculated by the author according to the OECD methodology. Now let us take a closer look at the employment rigidity/flexibility index, which has been calculated by World Bank experts since 2004 as part of the assessment of different Doing Business conditions for more than 180 countries.

The method, which is the basis for calculating this indicator, was proposed by J. Botero et al. [19] and was adjusted by World Bank experts. The necessary data are collected through a survey of lawyers and civil servants in each country, as well as a review of legislation and other labor regulations, which gives hope for a more accurate interpretation of employment legislation than when done exclusively by experts from international organizations.

In order to ensure comparability of data between different countries, the answers to the questionnaire are provided for a particular worker and business. Thus, we may assume that it is a cashier in a supermarket or grocery store, aged 19, with one year of experience, who is a full-time employee and is not a member of a trade union, unless membership is required. The company he/she works for is a limited liability

company operating in the largest city in the country; has 60 employees; is subject to collective agreements if such agreements cover more than 50% of the food retail sector and apply even to non-member companies; fully complies with the law, but does not provide its employees with guarantees and benefits beyond those provided by law and collective agreements.

It should be noted that the World Bank evaluated countries by labor market regulation in its Doing Business reports until 2012, later the employment rigidity index was excluded from the measurement of general business conditions. However, presently data on the regulation of labor relations are collected on annual basis. Their actual use, as well as application of the World Bank methodology allowed the author to estimate the employment flexibility index for Ukraine and other 189 countries, including EU and OECD countries, to compare the level of state intervention in labor markets, to identify the effects of regulatory influence on the functioning of the latter, in particular on the spread of informal labor relations, and to identify the main shortcomings of national labor legislation, whose correction could reduce informal employment in Ukraine.

Thus, the employment flexibility index measures four groups of indicators (subindices), which cover the key stages of the labor process: hiring, working hours and staff reductions (rules and cost). All sub-indices are evaluated by sets of specific stages of regulation of indicators (Table 6) and take values from 0 to 100, where 100 corresponds to the maximum flexibility of the rules.

Table 6

Employment flexibility index *: components

Sub-indices	Indicators
Hiring workers	– whether it is forbidden the use of fixed-term employment contracts for performance of permanent tasks; – maximum total duration of fixed-term employment contracts; – duration of the probationary period (in months) for permanent employees; – the ratio of the minimum wage to the average value added per employee
Working hours	– maximum number of working days allowed per week; – bonus for night work (as a percentage of hourly pay); – bonus for work on weekly days off (as a percentage of hourly wage); – bonus for overtime work (as a percentage of hourly wage); – whether there are restrictions on night work; – whether there are restrictions for work on weekly days off; – whether there are restrictions for overtime work; – average duration (in working days) of paid annual leave for employees with work experience of 1.5 and 10 years
Staff reduction	– whether it is allowed to consider the redundancy as a reason for dismissal; – whether the employer is obliged to notify a third party (for example, a government agency) in order to dismiss one redundant employee; – whether the employer is obliged to notify a third party in order to dismiss a group of nine redundant employees; – whether the employer is obliged to obtain the permission of a third party to dismiss one redundant employee; – whether the employer is obliged to obtain the permission of a third party to dismiss a group of nine redundant employees; – whether the law requires the employer to transfer the employee to another job or provide retraining before dismissing him/her;

Table 6 (ending)

Staff reduction	– whether the priority rules apply in case of redundancy; – whether the priority rules apply in case of re-employment after dismissal
Staff reduction	– whether it is allowed to consider the redundancy as a reason for dismissal; – whether the employer is obliged to notify a third party (for example, a government agency) in order to dismiss one redundant employee; – whether the employer is obliged to notify a third party in order to dismiss a group of nine redundant employees; – whether the employer is obliged to obtain the permission of a third party to dismiss one redundant employee; – whether the employer is obliged to obtain the permission of a third party to dismiss a group of nine redundant employees; – whether the law requires the employer to transfer the employee to another job or provide retraining before dismissing him/her; – whether the priority rules apply in case of redundancy; – whether the priority rules apply in case of re-employment after dismissal
The cost of staff reductions	– The average period of notice due to redundancy with work experience of 1.5 and 10 years (in pay weeks); – the average amount of severance pays in case of redundancy of an employee who has worked during 1.5 and 10 years (in pay weeks); – whether workers can benefit from unemployment protection after a year of work

* The employment flexibility index is calculated as the average of these four components.
Source: compiled by the author based on Doing Business. Methodology.

As we can see (Fig. 2), in general, Ukraine's labor market regulations are less flexible than the average for the EU and OECD countries. This situation is due to more complex (than the average among these countries) rules for hiring and reducing staff. The regulation of working hours is more flexible, while the costs of staff reductions are at the average level (among the EU and OECD countries) (Fig. 3).

Having faced with strict employment protection laws, companies lose the freedom to do business effectively, to respond effectively to market and individual changes. As a result, they find alternative ways to meet the needs of their activities, often hiring informally.

Thus, the connection between the level of flexibility in the regulation of the labor market in the country and the scale of the spread of informal employment among its population (Fig. 4). In economies with flexible regulation, informal employment tends to be lower.

As it was noted above, less degree of employment flexibility in Ukraine is due to more complex recruitment rules. In particular, due to the ban on the use of fixed-term employment contracts for permanent tasks. According to Doing Business 2020, the latter are banned in only 65[5] of the 190 countries and Ukraine among them.

At the same time, the right to use fixed-term employment contracts increases the flexibility of the labor market and meets its modern needs, expanding the ability of employers to attract the workforce they need and the ability of employees to choose jobs that best suit their skills and interests [21]. Flexible regulation of fixed-term employment allows robots to respond effectively to changes in economic conditions.

[5] Of these, 13 EU and OECD countries: Croatia, Estonia, Finland, France, Greece, Latvia, Luxembourg, Mexico, Portugal, Romania, Slovenia, Spain, and Turkey.

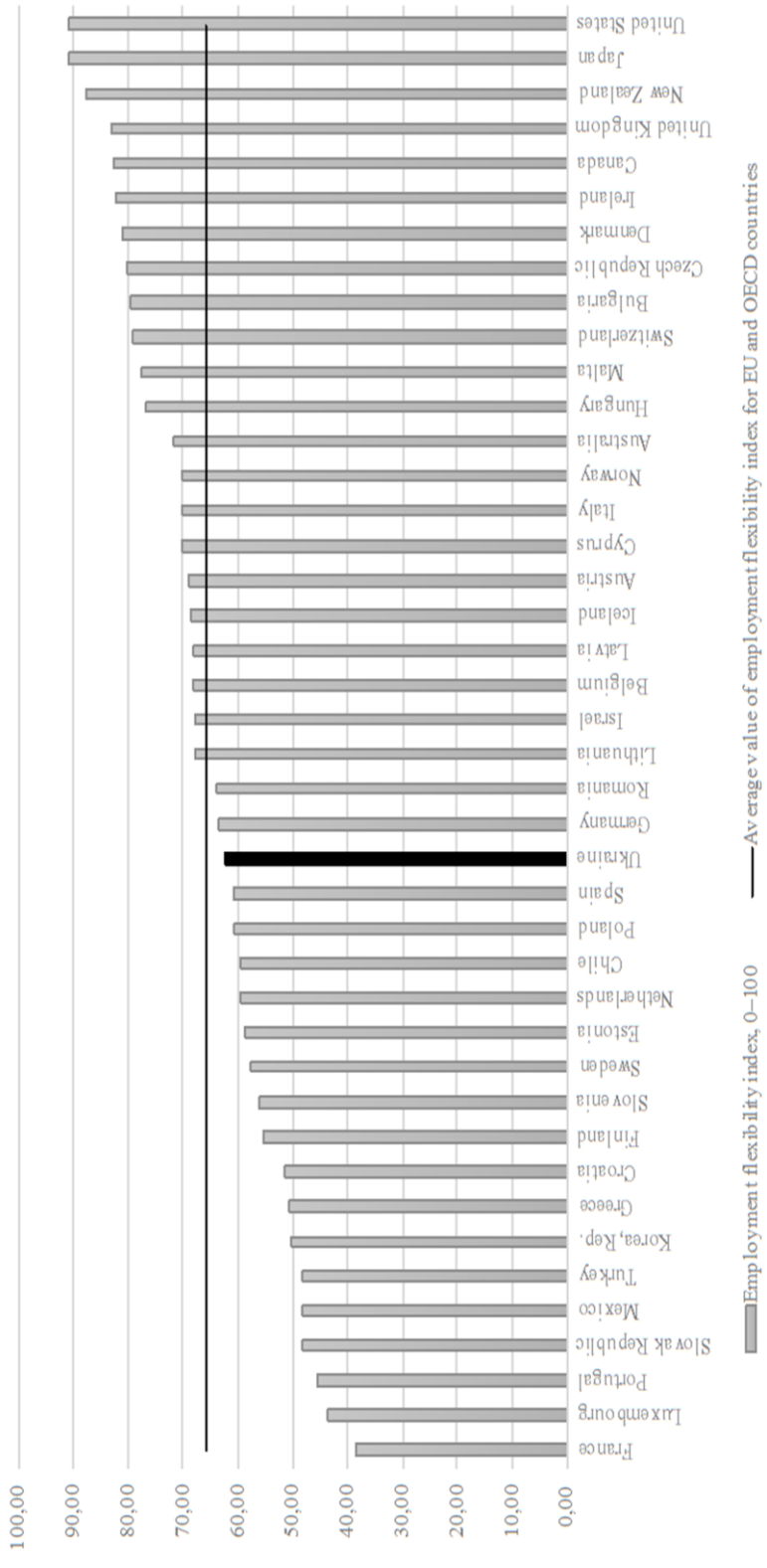

Fig. 2. Employment flexibility index * for Ukraine and EU and OECD countries

* A higher rate indicates greater flexibility in the regulation of labor relations, with 100 being the highest possible score.

Source: calculated by the author according to Doing Business 2020[5].

[5] Doing Business 2020 data is current on May 1, 2019. [20] The next report should be expected to change the analyzed indicators - as a reflection of reforms in the regulation of labor relations under the influence of the COVID-19 pandemic and the intensified global socio-economic crisis.

Unemployment or those who do not have a permanent job, flexibility in concluding fixed-term employment contracts helps to get a job faster, and therefore this flexibility provides a direct source of income and practical experience [22, 23]. Fixed-term contracts are also important for increasing youth employment. Strict regulation of fixed-term employment contracts in case when they meet the interests of the employee, forces the workers to work informally, thereby increasing the level of informal employment [24]. As a result, companies do not only receive budget revenues, but also the employee suffers because does not have adequate protection.

The minimum wage is an important tool for regulating employment, but its impact on the labor market strongly depends on the level where it is set and on its information. It should be borne in mind that an unjustified increase in the minimum wage based solely on political will, rather than real economic preconditions, can have negative consequences for the flexibility of employment. If the minimum wage is high, companies do not want to hire workers with little experience, low-skilled labor is displaced and young people and other socially vulnerable groups are discriminated against [25–28]. Initiatives to unjustifiably increase the minimum wage may have a negative impact on formal employment in relatively low average wages, as well as on formal youth and rural employment [29].

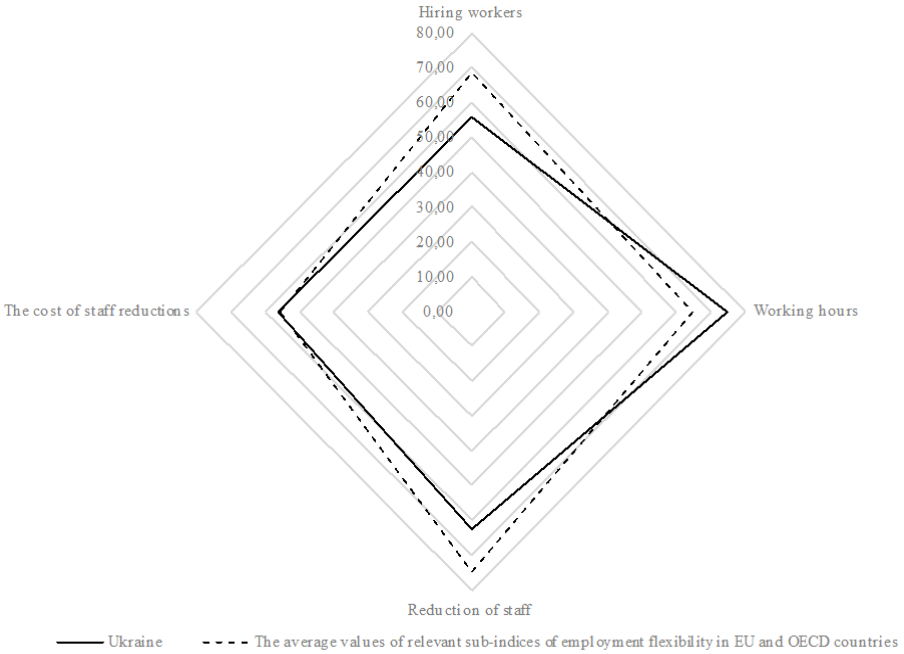

Fig. 3. Component level of employment flexibility* for Ukraine and EU and OECD countries

* A higher rate indicates greater flexibility in the regulation of labor relations, 100 is the highest possible score.

Source: calculated by the author according to Doing Business 2020.

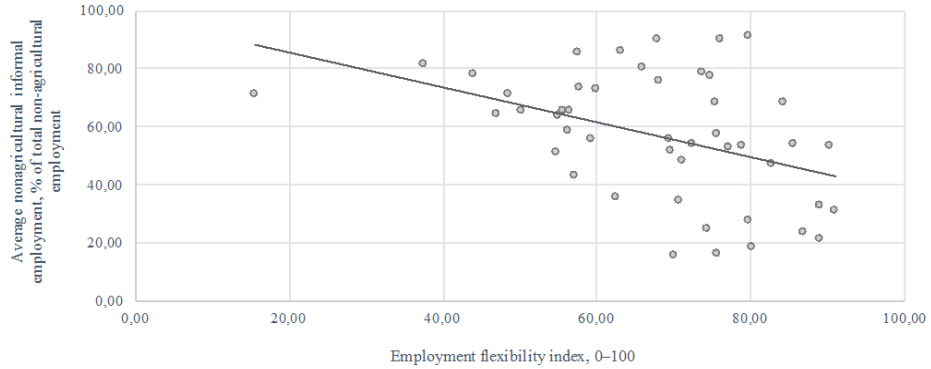

Fig. 4. Relationship between flexibility in the regulation of labor relations and the level of informal employment in the labor market

* The figure shows the average values of indicators for 2016-2018. The sample includes 47 countries. The relationship is statistically significant at 1%. GDP per capita is controlled.

The higher index indicates greater flexibility in the regulation of labor relations, 100 being the highest possible score.

Source: calculated by the author according to the World Bank.

According to Doing Business 2020, in Ukraine, compared to the EU and OECD countries, the minimum wage is quite high in relation to labor productivity (Fig. 5).

Over the past three years (January 1, 2018 - January 1, 2020), the minimum wage in the country has tripled. In the year of crisis 2020, on behalf of the President, the government raised the minimum wage again from 4723 UAH to 5000 UAH (01.09.2020). However, it is still proposed to increase the minimum wage to UAH 6,000 in January 2021 and to UAH 6,500 in July 2021. In other words, it will be an average annual increase of 20% in 2021.

Usually in the world, the minimum wage is raised if labor productivity increases. However, the government forecast of economic and social development of Ukraine for 2021–2023 indicates that in the medium term growth of labor productivity is expected to be sluggish, on average 3.5% (in 2021 - 4.4%) [30, p. 56]. There was no significant increase in productivity in previous years (the average value for the period 2017-2019 was 2.4%) [30, p. 3, 56]. Therefore, the politically motivated rapid growth of the minimum wage, as planned by the Government of Ukraine, risks increasing informal employment in the country.

Less than the EU and OECD average, employment flexibility in Ukraine is due not only to more complex recruitment rules, but also to a more regulated redundancy procedure (see Figure 3). Legislation that makes it difficult for a Ukrainian employer to adjust the number of staff due to changes in economic conditions is the obligation to consider transferring an employee to another job before dismissal, and the rules of preferential right (priority) as dismissal in case of redundancy, and the conclusion of an employment contract in case of re-employment. In the labor legislation of the EU and OECD countries, such reservations either are mostly absent or apply to one

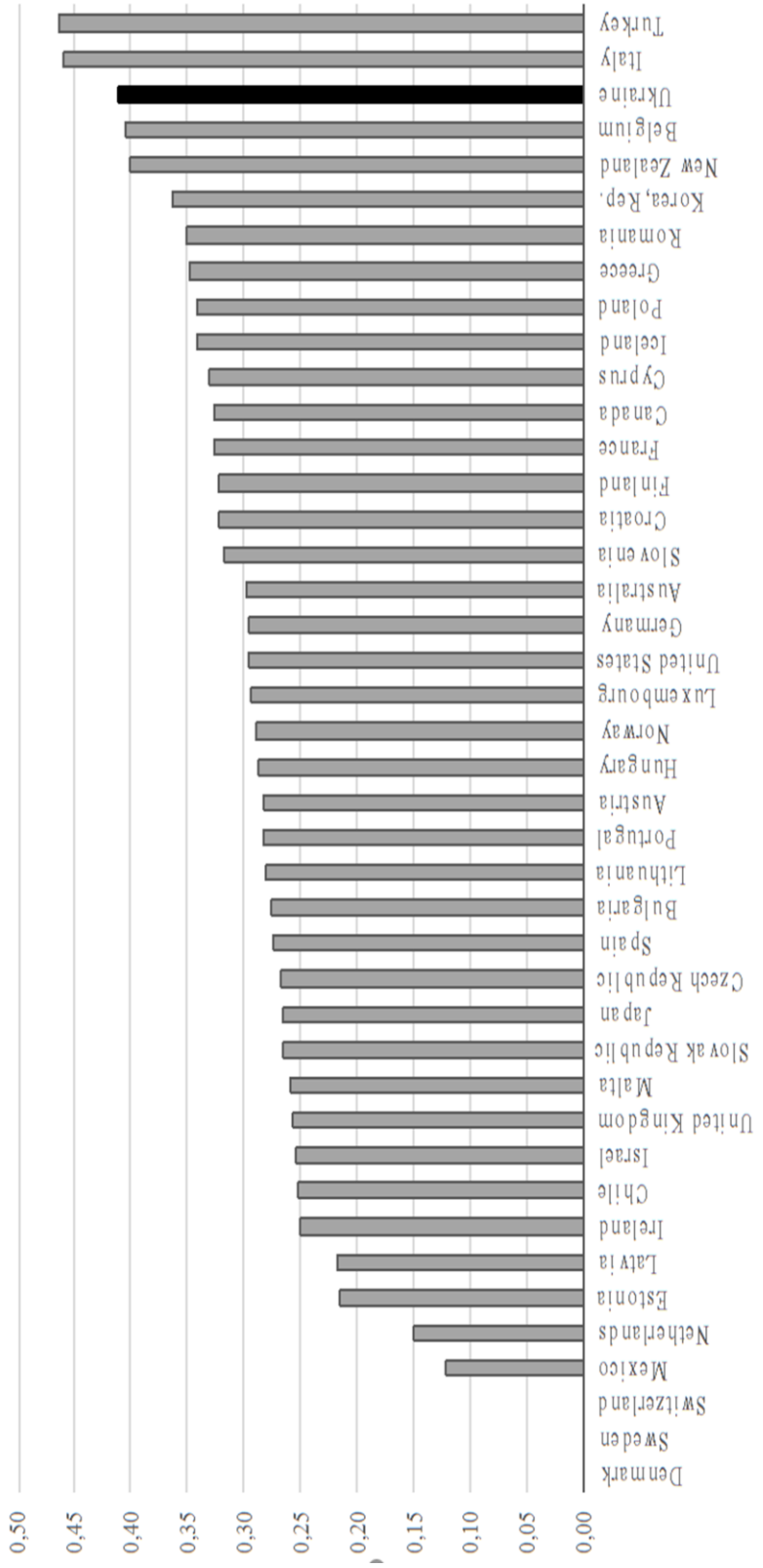

Fig. 5. Ratio of minimum wage to average value added per employee in Ukraine and EU and OECD countries

Source: calculated by the author according to Doing Business 2020.

or two of these points. In general, these rules are intended to strengthen employment protection, but the trade-off is that employers may be reluctant to hire workers if restrictions prevent future redundancies due to changing economic conditions. It should also be understood that, following the list of priorities for dismissal, the employer might sometimes have no choice but to leave at work protected persons and allow the best professionals to go. Strict dismissal rules can also have a significant impact on an employer's decision to formalize an employment relationship, and ultimately have a negative impact on productivity growth, especially in areas where they are more likely to be restrictive [31]. Flexible regulation of issues related to dismissal, as studies show, stimulates legal employment and reduces undeclared work [32].

Thus, descriptive analysis and multidimensional modeling made it possible to identify a number of determining factors in an individual's involvement in informal employment. They include age, gender, marital status, level of education, place of residence and work, field of activity. The obtained results showed that the profiles of the groups of employees selected in the study do not match. For example, informally hired workers are the youngest and self-employed workers are the oldest. Informally employed contrast sharply with those formally employed in terms of education. They also differ in the areas of employment: informally, the least likely to work in construction, trade, hotels, and restaurants, while formally employed - in the budget sphere (public administration, education, health care) and industry. Informally, the self-employed often choose agriculture, while registered entrepreneurs choose trade. From the point of view of developing a policy of transition to formality, it is important to be aware of the difference in the characteristics and needs of the informally employed and to resort to targeted measures based on empirical conclusions.

In the context of substantiating the areas that will help reduce the level of informality and support the transition to a properly designed employment relationship, the article considers the dependence of informal employment on the functioning of labor market institutions, in particular, the relationship with labor legislation. Based on the assessments of the flexibility of labor market regulation and their analysis, "bottlenecks" in the legal framework have been identified, which can lead to an increase in informal employment. These include complicated hiring rules and regulated staff reductions. Hence, decisions on the formation of institutional conditions for reducing informality, in particular the legalization of hired labor, may relate to the liberalization of fixed-term employment, optimization of staff reductions, and the minimum wage as an important tool for regulating employment and increasing it, justified by increased productivity.

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НЕФОРМАЛЬНА ЗАЙНЯТІСТЬ В УКРАЇНІ ТА ФОРМУВАННЯ ІНСТИТУЦІЙНИХ УМОВ ЇЇ МІНІМІЗАЦІЇ

Подано результати дослідження структури та масштабів поширення неформальної зайнятості на ринку праці України. Базуючись на аналізі отриманих оцінок, складено соціально-економічний профіль середньостатистичного працівника, залученого до неформальних трудових відносин. Особливістю дослідження є те, що всі оцінки розглянуто окремо для найманої праці та самозайнятості, що дало змогу виявити внутрішню неоднорідність структури неформальної зайнятості в Україні.

За результатами економетричного моделювання виділено основні соціально-економічні, демографічні, поселенські, професійні та галузеві фактори, що детермінують залученість індивіда до неформальної зайнятості в Україні.

Охарактеризовано основи законодавчо-нормативного регулювання трудових відносин як формального інституту, що впливає на динаміку неформальної зайнятості. Встановлено зв'язок між рівнем гнучкості регулювання ринку праці у країні та масштабами поширення неформальної зайнятості серед її населення. Показано, що в економіках із гнучким регулюванням, як правило, неформальна зайнятість менша.

Базуючись на оцінках та аналізі гнучкості регулювання ринку праці в Україні за такими компонентами, як найм, робочий час та скорочення штату працівників (правила та вартість), виявлено "вузькі місця" національного законодавства, які можуть призводити до зростання неформальної зайнятості, що у свою чергу допомогло визначити основні інституційні умови її мінімізації.

Ключові слова: *неформальна зайнятість, наймані працівники, самозайнятість, мікродетермінанти, гнучкість регулювання ринку праці*

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