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ARTICLES

CENTRE FOR EUROPE UNIVERSITY OF WARSAW

ARTICLES

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Przemysław Dubel[*]
Julita Majczyk[**]

European Union Funds – Application Perspective

Abstract

The result of an effective management of the redistribution of European Union funds should be a reduction of disparities between EU regions by guaranteeing their comprehensive and harmonious development and supporting the economic and social cohesion of member countries. A poorly-conducted programming process of financial interventionism, the source of which is EU funds, may result in divergence between regions, the direct effect of which would be their social and economic marginalisation. For this reason, it is important to skillfully manage those funds. The main aim of this article is to present the factors affecting the decision-making process of the use of EU co-financing, and that includes the pandemic as an external variable being a threat to the implementation of investments from the EU's structural funds. To explain the multivariate associations between explanatory variables and the binary outcome variables, logistic regression was employed. Based on the tests' results, significant associations were observed between the dependent variable and (a) participation in training co-financed by EU funds, (b) receiving information regarding additional EU funds as pandemic support, and (c) the suspension of planned investments using EU funds due to the pandemic situation. A comprehensive distribution of respondents according to the response categories in the analysed variables within the entire sample (N = 950) was presented. Corresponding associations were evident within a sub-sample (N = 303). The model showed that all significant independent variables explain the use of EU funds, but the model explains just 28.6% of the

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decision to use the funds. Thus, the following study indicates directions that require further research.

Keywords: European Union, European Social Fund, Investments, Human Capital

Introduction

European Union funds are now seen as one of the main factors supporting the development of Polish regions, and are additionally seen as the main financial instrument of regional development policy. Economic and social differences between individual countries and regions of the European Community became the reason for the development of interventionism, which aimed at achieving economic and social cohesion for member countries (Nowak, 2005, p. 69). The actions taken by the Community in the framework of regional policy were based on the resources set aside under the Structural Funds *and* the Cohesion Fund. They should encourage regional development through interregional convergence, competitiveness, employment, and European territorial cooperation (Dumciuviene, Stundziene, Startiene, 2015, pp. 508–510).

Article 1 of a treaty signed in 1997 in Amsterdam indicates the objectives of the Structural Funds, the actions implemented by those funds along with the Cohesion Fund, as well as other available financial instruments that should support the fulfillment of the tasks set by the regional policy of the European Union.[1] The activities related to the Structural Funds were defined in the Council Regulation of June 2nd, 1999. It defines the tasks, main objectives and basic rules for the use of structural funds, which are divided into four main categories: general rules; organisational rules; financing rules; and evaluation rules.

The result of the effective management of the redistribution of EU funds should be a reduction of disparities between EU regions by guaranteeing their comprehensive and harmonious development, and supporting the economic and social cohesion of member countries (Dubel, 2020, p. 10). A poorly-conducted programming process of financial interventionism, the source of which is EU funds, may result in divergence between regions, the direct effect of which will be their

[1] In addition to the structural funds, two aid mechanisms within the European Economic Area financed from Norwegian sources or jointly by Norway, Iceland and Liechtenstein, i.e., the three EFTA countries, play an important role in the implementation of the objectives of the socio-economic cohesion policy.

social and economic marginalisation. For this reason, it is important to skillfully manage the funds from programming, distribution, and, finally, to the monitoring of the final effects. The task of the funds is to support activities that reduce the level of structural problems resulting mainly from their peripheral location, difficult climatic and geological conditions, unfavourable structure of the economy (especially with regard to the dominance of agriculture), underdeveloped infrastructure, and the low level of education and professional qualifications of the population (Uryga, Magielski, Bienias, 2007, p. 10).

The expansion of infrastructure, the activation of entrepreneurship, and the enrichment of human resources are examples of areas of impact of the funds, while simultaneously guaranteeing the development of regions, and thus subsequent economic progress and job creation (Camagni, 2017, pp. 232–244). Member States' previous experience in managing financial instruments in the system of EU interventionism and creating application procedures proves that the level of support from the European Union budget depends largely on the created application ecosystem, within which one can include the national institutional system of managing EU funds, absorption capacity, and emerging barriers (Dubel, 2020, pp. 117–124).

The research presented in this article was carried out in late 2022 and early 2023. During this programming period, the two main funds that directly influenced and continue to influence the Polish economy and human resource development were the European Regional Development Fund and the European Social Fund.

The European Regional Development Fund (ERDF) was established in 1975. It is the most important financial instrument (of all funds) of the European Community and the most strongly oriented to supporting regional development (Brodecki, 2005, p. 118). The aim of the ERDF is to increase economic and social cohesion in the European Union and eliminate inequalities between regions. It finances direct support for investment in enterprises (especially SMEs) to create sustainable jobs, as well as ensuring the construction of infrastructure related to research and innovation, telecommunications, environmental protection, energy and transport, financial instruments (i.e., venture capital funds and local development funds) to stimulate regional and local development and to facilitate cooperation between cities and regions (Giordano, Dubois, 2019, pp. 1221–1230). The oldest European structural fund is the European Social Fund (ESF), which was established in 1957 under the Treaty establishing the European Economic Community. It co-finances member countries' activities in the field of employment policy and human

resources development. As with the other structural funds, its specific tasks and the way it functions have been changing. The reforms went in two major directions. Firstly, akin to the ERDF, the ESF systematically became an instrument of Community employment policy. Secondly, its nature evolved from a state of independence and autonomy from the other structural funds to an integral financial tool based on coordination and cooperation with the other instruments of the European Union's regional policy (Głąbicka, Grewiński, 2005, pp. 121–125).

The ESF is, first and foremost, a dynamic policy instrument for employment and combating unemployment. The main tasks carried out by the fund focus on co-financing labour market-oriented activities and the development of human resources potential. In terms of human resource development, it plays a supporting, complementary role to the activities of the Member States, intervening in such areas as, for example, developing and promoting active labour market policies, facilitating the reintegration of the unemployed, supporting vocational training, education and career counseling activities, increasing the potential of a skilled and adaptable workforce, and fostering innovation and adaptation potential in the field of labour organisation (Dubel, 2011, pp. 34–36).

Since 2004, Poland has been the largest net recipient of EU funds (see: https://ec.europa.eu/eurostat), and the balance of flows between the European Union and Poland is shown in Figure 1 below.

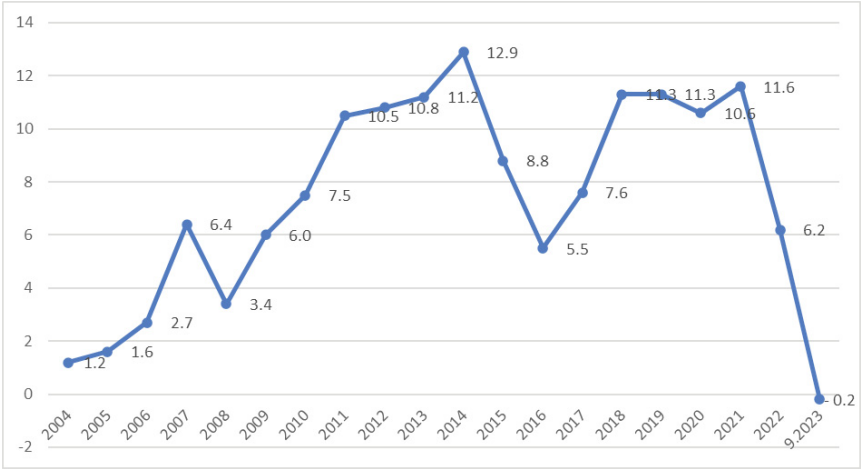

Figure 1. Balance of Net Flows Between the EU and Poland in Billions of Euros

Source: the authors' own compilation based on Ministry of Finance data (https://www.gov.pl/web/finanse/transfery-polska-ue-unia-europejska, Access: 3.01.2024).

The total (net) amount of support received from the EU as at the end of September 2023 was almost 160 billion euros, which directly shapes Poland's competitiveness and affects its development. Unfortunately, the year 2023 marks the absence of subsidies from both the National Reconstruction Program and the partial suspension of financial flows for 2021–2027. The result of such a policy is a negative balance of about 0.2 billion euros. which occurred for the first time since Poland joined the European Union. Thus, as can be seen, the creation of a stable yet secure application environment, of which the project recipient is one of the main elements, and the identification of which factors influence the process of applying for EU funding is a recipe for achieving a high absorption rate of EU funds, which for Poland (for the period 2004–2020) is about 96% of the total allocation (based on data from the Ministry of Funds and Regional Policy, https://www.gov.pl/web/fundusze-regiony). Hence, the purpose of this article is to present the factors affecting the decision-making process of using EU co-financing including the pandemic as an external variable that is a threat to the implementation of investments from EU structural funds.

Given the focus on economic growth, regional development, job creation, and human resource development, this text corresponds with Sustainable Development Goal (SDG) 8: "Decent Work and Economic Growth" (see: https://sdgs.un.org/goals/goal8). SDG 8 aims to promote sustained, inclusive, and sustainable economic growth, full and productive employment, and decent employment for all. In the given text, there is a focus on the European Union funds which support activities such as job creation, infrastructure expansion, regional development, entrepreneurship activation, and human resource enrichment, all of which align with the objectives of SDG 8. The emphasis on reducing both social and economic inequalities between EU countries and promoting cohesion further reinforces the connection to SDG 8 as fostering economic progress and job creation are its key components. Drawing on the aforementioned potential contribution of the text to the field, and on the basis of literature review and knowledge, the authors pose the following research hypotheses:

H1: A higher level of education attained by people applying for EU funds increases the chances of deciding to join the application process.

H2: Participation in training co-financed by EU funds increases the chances of making a decision to obtain this form of co-financing.

H3: Resignation from financing due to the pandemic situation more often applies to people who use the funds.

Method

Sample

The research involved a sample of $N = 1069$ respondents with no missing data. However, a thorough exploratory analysis revealed some concerns regarding data quality (such as individuals reporting ages exceeding the assumed maximum of 75 years or indicating their unemployment but qualifying for benefits while being of retirement age). As a result, the final sample for further analysis comprised $N = 950$ individuals, including 497 women and 453 men. The mean age of the respondents was $M = 43.31$, with a standard deviation of $SD = 14.57$ ($M = 43.13$, $SD = 14.53$ for women; $M = 43.5$, $SD = 14.64$ for men). The basic sample characteristics are presented in Table 1 below.

Table 1. Sample Characteristics (N = 950)

Variable	Categories	All (N = 950)		Women (N = 497)		Men (N = 453)	
		n	%	n	%	n	%
Age	18–24	119	12.5	69	13.9	50	11.0
	25–34	204	21.5	102	20.5	102	22.5
	35–44	180	18.9	85	17.1	95	21.0
	45–54	192	20.2	98	19.7	94	20.8
	55 or older	255	26.8	143	28.8	112	24.7
Place of residence	Village	380	40.0	189	38.0	191	42.2
	City up to 20,000 residents	124	13.1	67	13.5	57	12.6
	City of 20,000 to 100,000 residents	185	19.5	90	18.1	95	21.0
	City of 100,000 to 500,000 residents	164	17.3	93	18.7	71	15.7
	City of 500,000 or more residents	97	10.2	58	11.7	39	8.6
Education	Primary or basic vocation	109	11.5	48	9.7	61	13.5
	Secondary	400	42.1	219	44.1	181	40.0
	Tertiary or higher	437	46.0	228	45.9	209	46.1
	Other	4	0.4	2	0.4	2	0.4

Among the 950 respondents surveyed, the vast majority (85.6%) did not benefit from EU funding. Therefore, in order to assess the validity of the obtained results, the analyses were conducted in parallel in two cases: (1), for the entire sample examined, and (2), for a sub-sample of $n = 303$ people,

consisting of all people benefiting from EU funding and randomly selected $n = 166$ people who did not benefit from such funding at all (20% of all those meetings this criterion). The average age in the sample thus created was $M = 42.27$ ($SD = 14.19$), among people benefiting from EU funding: $M = 41.96$, $SD = 15.41$, and among those not using it: $M = 42.53$, $SD = 12.61$. The basic sub-sample characteristics are presented below in Table 2.

Table 2. Sub-sample Characteristics (N = 303)

Variable	Categories	All		Have you ever benefitted from EU funding?			
		($N = 303$)		Yes ($n = 137$)		No ($n = 166$)	
		n	%	*n*	%	*n*	%
Gender	Female	174	57.4	71	51.8	103	62.0
	Male	129	42.6	66	48.2	63	38.0
Age	18–24	40	13.2	9	6.6	31	18.7
	25–34	68	22.4	39	28.5	29	17.5
	35–44	65	21.5	37	27.0	28	16.9
	45–54	59	19.5	26	19.0	33	19.9
	55 or older	71	23.4	26	19.0	45	27.1
Place of residence	Village	125	41.3	57	41.6	68	41.0
	City up to 20,000 residents	36	11.9	14	10.2	22	13.3
	City of 20,000 to 100,000 residents	57	18.8	26	19.0	31	18.7
	City of 100,000 to 500,000 residents	60	19.8	29	21.2	31	18.7
	City of 500,000 or more residents	25	8.3	11	8.0	14	8.4
Education	Primary or basic vocation	25	8.3	6	4.4	19	11.4
	Secondary	120	39.6	40	29.2	80	48.2
	Tertiary or higher	157	51.8	91	66.4	66	39.8
	Other	1	0.1			1	0.6

Analysis

To explain the multivariate associations between explanatory variables and the binary outcome variables, logistic regression was employed. In all models, the same set of socio-demographic characteristics (Model 0) was controlled for. The models were computed separately for each independent variable, and, in the final step, only those of significance were included into a single model. The analyses were conducted using IBM SPSS 29.0 software.

To assess the robustness of the models, the authors conducted the analyses with various combinations of control variables. Consistently, all the results remained stable across different model specifications. Therefore, only the final solutions have been presented in the article, while the results of additional analyses can be made available upon request.

Results

Descriptive Statistics

In the initial phase of the analysis, the authors looked for variables that would significantly distinguish between individuals benefiting from EU funding and those who do not. Given that all independent variables were categorical, the chi-square test of independence for comparative purposes was used. Based on the test results, significant associations were observed between the dependent variable and (a), participation in training co-financed by EU funds χ^2 (1) = 130,98; $p < 0{,}001$ χ^2 (1) = 130,98; $p < 0{,}001$, (b), receiving information regarding additional EU funds as pandemic support (χ^2 (2) = 44,25; $p < 0{,}001$ χ^2 (2) = 44,25; $p < 0{,}001$), and (c), the suspension of planned investments using EU funds due to the pandemic situation (χ^2 (2) = 37,11; $p < 0{,}001$). A comprehensive distribution of respondents according to the response categories in the analysed variables within the entire sample ($N = 950$) is detailed in Table 3 below. Corresponding associations were evident within the sub-sample ($N = 303$), and the distribution of the variables' responses is presented in Table 4. Those variables were used in the next step of the analysis as predictors of the variability of the dependent variable.

Table 3. The Percentage of Participants who Benefitted (or not) From EU Funding by Categorical Explanatory Variable (N = 950)

Variable	Categories	All		Have you ever benefitted from EU funding?			
		($N = 950$)		Yes ($n = 137$)		No ($n = 813$)	
		n	%	*n*	%	*n*	%
Have you ever participated in training co-financed by EU funds?	No	639	67.3	34	24.8	605	74.4
	Yes	311	32.7	103	75.2	208	25.6
Did you hear about additional EU funds as support during the pandemic?	No	533	56.1	65	47.4	468	57.6
	Yes	178	18.7	53	38.7	125	15.4
	Not applicable	239	25.2	19	13.9	220	27.1

Has the pandemic situation resulted in the abandonment of planned investments using EU funds?	No	398	41.9	58	42.3	340	41.8
	Yes	63	6.6	25	18.2	38	4.7
	Not applicable	489	51.5	54	39.4	435	53.5

Table 4. The Percentage of Participants Who Benefitted (or not) From EU Funding by Categorical Explanatory Variable (N = 303)

Variable	Categories	All		Have you ever benefited from EU funding?			
		(N = 303)		Yes (n = 137)		No (n = 166)	
		n	%	*n*	%	*n*	%
Have you ever participated in training co-financed by EU funds?	No	155	51.2	34	24.8	121	72.9
	Yes	148	48.8	103	75.2	45	27.1
Did you hear about additional EU funds as support during the pandemic?	No	162	53.5	65	47.4	97	58.4
	Yes	75	24.8	53	38.7	22	13.3
	Not applicable	66	21.8	19	13.9	47	28.3
Has the pandemic situation resulted in the abandonment of planned investments using EU funds?	No	124	40.9	58	42.3	66	39.8
	Yes	34	11.2	25	18.2	9	5.4
	Not applicable	145	47.9	54	39.4	91	54.8

Regression Models

Table 5 (the tables from 5a to 5e) shows the results of multivariate analyses, including coefficients (*B*) with standard errors (*SE*) and odds ratios (*OR*) with the corresponding 95% confidence interval (*CI*) and *p-values* for each explanatory variable. Each model predicts the increasing chance of benefitting from EU funding based on a set of predictors. In Model 0, only control variables were entered into the model (gender, age, place of residence, and level of education). None of them showed any statistical significance.

Next, in the subsequent steps (Models 1–4), individual explanatory variables were incorporated into the analysis while controlling for socio-demographic factors. It is noteworthy that all variables demonstrated statistical significance, both within the overall study sample (N = 950) and in the sub-sample (N = 303).

Model 2 warrants special attention, as the inclusion of the predictor (participation in training co-financed by EU funds) led to the emergence of statistical significance for one of the control variables – age (p = 0.039). However, within the sub-sample, a significant difference arose between

individuals residing in village areas and those in cities with populations of up to 20,000 residents. One possible explanation for that shift may be a substantial percentage disparity in the distribution of individuals within this predictor (see Tables 3 and 4).

In the final step, all the predictors were included in one model. In the case of the entire sample ($N = 950$), each of them also turned out to be statistically significant, increasing the probability of benefitting from EU funding. The strongest predictor turned out to be participation in training co-financed by EU funds which increases the chance of using EU funding by approximately seven times (*RO* = 7.05; 95% *CI* [4.52; 10.99]). The weakest effect was observed for receiving information about additional EU funds as support during the pandemic (*RO* = 1.72; 95% *CI* [1.06; 2.78]).

In the sub-sample, similar results were obtained, but with one exception. The resignation of planned investments using EU funds due to the pandemic was no longer statistically significant (Model 6b, $p = 0.160$).

Analysing the percentage of responses in the compared samples, as well as by the dependent variable, it can be observed that the distribution of responses to the question about resignation has changed (see Tables 3 and 4). That change could result in a statistically insignificant effect in the sub-sample. However, the effectiveness of Model 6b in classifying correctly is in 77.2% of cases.

Table 5a. Logistic Regression: Predicting the Chance of Benefitting From EU Funding Due to Selected Predictors in the Sample and Sub-sample

Predictor	Model 0a ($N = 950$)				Model 0b ($N = 303$)			
	B (SE B)	*OR*	*95% LL*	*95% UL*	*B (SE B)*	*OR*	*95% LL*	*95% UL*
Gender (ref. female)	0.030 (0.189)	1.030	0.711	1.492	0.458 (0.246)	1.581	0.976	2.558
Age	-0.008 (0.007)	0.992	0.979	1.005	-0.006 (0.009)	0.994	0.977	1.011
Place of residence (ref. Village)								
City up to 20.000 residents	-0.299 (0.325)	0.671	0.355	1.268	-0.342 (0.406)	0.711	0.321	1.575
City of 20.000 to 100.000 residents	-0.162 (0.266)	0.850	0.505	1.433	-0.246 (0.346)	0.782	0.397	1.539
City of 100.000 to 500.000 residents	0.042 (0.260)	1.043	0.627	1.735	-0.074 (0.338)	0.928	0.478	1.802

City of 500.000 or more residents	-0.485 (0.362)	0.616	0.303	1.251	0.038 (0.470)	1.039	0.413	2.611
Education (ref. Primary or basic vocation)								
Secondary	-0.678 (0.454)	1.970	0.810	4.793	0.533 (0.513)	1.704	0.624	4.655
Tertiary or higher	**1.573 (0.440)**	**4.822*****	**2.035**	**11.428**	**1.597 (0.504)**	**4.939****	**1.838**	**13.271**
Participation in training co-financed by EU funds (ref. No)								
Receiving information regarding additional EU funds as pandemic support (ref. No)								
Yes								
Not applicable								
Suspension of planned investments using EU funds due to the pandemic situation (ref. No)								
Yes								
Not applicable								
Constant	-2.433 (0.512)	0.088			-1.077 (0.608)	0.341		
χ^2		34.741				27.185		
df		8				8		
R^2 (Nagelkerke)		0.064				0.115		

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$

Table 5b. Logistic Regression: Predicting the Chance of Benefitting From EU Funding Due to Selected Predictors in the Sample and Sub-sample (Continued)

Predictor	Model 1a ($N = 950$)				Model 1b ($N = 303$)			
	B (SE B)	*OR*	*95% LL*	*95% UL*	*B (SE B)*	*OR*	*95% LL*	*95% UL*
Gender (ref. female)	0.013 (0.204)	1.013	0.679	1.512	0.439 (0.276)	1.551	0.902	2.665
Age	**-0.016 (0.008)**	**0.985***	**0.970**	**0.999**	-0.006 (0.010)	0.994	0.974	1.014

Place of residence (ref. Village)								
City up to 20.000 residents	-0.584 (0.345)	0.558	0.284	1.096	**-0.963 (0.468)**	**0.382***	**0.153**	**0.955**
City of 20.000 to 100.000 residents	-0.170 (0.287)	0.843	0.481	1.479	-0.575 (0.397)	0.562	0.258	1.225
City of 100.000 to 500.000 residents	0.089 (0.283)	1.093	0.628	1.902	-0.274 (0.383)	0.760	0.359	1.612
City of 500.000 or more residents	-0.463 (0.386)	0.629	0.295	1.342	-0.084 (0.539)	0.919	0.320	2.642
Education (ref. Primary or basic vocation)								
Secondary	0.688 (0.475)	1.991	0.785	5.049	0.646 (0.584)	1.908	0.607	5.998
Tertiary or higher	**1.213 (0.462)**	**3.363****	**1.361**	**8.311**	**1.391 (0.574)**	**4.020***	**1.306**	**12.377**
Participation in training co-financed by EU funds (ref. No)	**2.143 (0.221)**	**8.527*****	**5.532**	**13.144**	**2.188 (0.285)**	**8.318*****	**4.759**	**14.538**
Receiving information regarding additional EU funds as pandemic support (ref. No)								
Yes								
Not applicable								
Suspension of planned investments using EU funds due to the pandemic situation (ref. No)								
Yes								
Not applicable								
Constant	-2.993 (0.549)	0.050			-1.925 (0.709)	0.146		
χ^2		145.262				90.706		
df		9				9		
R^2 (Nagelkerke)		0.253				0.347		

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$

Table 5c. Logistic Regression: Predicting the Chance of Benefitting From EU Funding Due to Selected Predictors in the Sample and Sub-sample (Continued)

Predictor	Model 2a (N = 950)				Model 2b (N = 303)			
	B (SE B)	*OR*	*95% LL*	*95% UL*	*B (SE B)*	*OR*	*95% LL*	*95% UL*
Gender (ref. female)	-0.020 (0.194)	0.980	0.670	1.434	0.423 (0.255)	1.527	0.927	2.515
Age	-0.011 (0.007)	0.989	0.976	1.003	-0.007 (0.009)	0.993	0.975	1.011
Place of residence (ref. Village)								
City up to 20.000 residents	-0.397 (0.332)	0.672	0.350	1.290	-0.313 (0.425)	0.731	0.318	1.682
City of 20.000 to 100.000 residents	-0.250 (0.273)	0.779	0.456	1.330	-0.202 (0.357)	0.817	0.406	1.643
City of 100.000 to 500.000 residents	-0.009 (0.266)	0.991	0.589	1.670	-0.137 (0.353)	0.872	0.437	1.743
City of 500.000 or more residents	-0.547 (0.369)	0.579	0.281	1.193	0.068 (0.484)	1.070	0.414	2.764
Education (ref. Primary or basic vocation)								
Secondary	0.650 (0.460)	1.916	0.777	4.725	0.567 (0.530)	1.763	0.624	4.982
Tertiary or higher	**1.458 (0.449)**	**4.296****	**1.784**	**10.349**	**1.465 (0.521)**	**4.327****	**1.559**	**12.014**
Participation in training co-financed by EU funds (ref. No)								
Receiving information regarding additional EU funds as pandemic support (ref. No)								
Yes	**1.111 (0.218)**	**3.036*****	**1.980**	**4.655**	**1.198 (0.312)**	**3.312*****	**1.798**	**6.101**
Not applicable	-0.335 (0.279)	0.715	0.414	1.237	-0.319 (0.331)	0.727	0.380	1.391
Suspension of planned investments using EU funds due to the pandemic situation (ref. No)								
Yes								

Not applicable				
Constant	-2.429 (0.525)	0.715	-1.925 (0.709)	0.303
^{2}	67.730		47.701	
df	10		10	
R^2 (Nagelkerke)	0.123		0.195	

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$

Table 5d. Logistic Regression: Predicting the Chance of Benefitting From EU Funding Due to Selected Predictors in the Sample and Sub-sample (Continued)

Predictor	Model 3a (N = 950)				Model 3b (N = 303)			
	B (SE B)	*OR*	*95% LL*	*95% UL*	*B (SE B)*	*OR*	*95% LL*	*95% UL*
Gender (ref. female)	-0.059 (0.196)	0.943	0.642	1.386	0.370 (0.253)	1.448	0.882	2.377
Age	-0.006 (0.007)	0.994	0.980	1.007	-0.001 (0.009)	0.999	0.981	1.017
Place of residence (ref. Village)								
City up to 20.000 residents	-0.448 (0.332)	0.639	0.333	1.226	-0.359 (0.420)	0.698	0.306	1.591
City of 20.000 to 100.000 residents	-0.201 (0.273)	0.818	0.479	1.396	-0.231 (0.351)	0.794	0.399	1.579
City of 100.000 to 500.000 residents	0.015 (0.264)	1.015	0.605	1.703	-0.126 (0.346)	0.882	0.448	1.737
City of 500.000 or more residents	-0.508 (0.368)	0.601	0.292	1.238	0.034 (0.473)	1.035	0.410	2.614
Education (ref. Primary or basic vocation)								
Secondary	0.528 (0.459)	1.696	0.689	4.173	0.399 (0.519)	1.491	0.539	4.126
Tertiary or higher	**1.487 (0.445)**	**4.423*** **	**1.849**	**10.580**	**1.471 (0.510)**	**4.352****	**1.603**	**11.819**
Participation in training co-financed by EU funds (ref. No)								
Receiving information regarding additional EU funds as pandemic support (ref. No)								

Yes								
Not applicable								
Suspension of planned investments using EU funds due to the pandemic situation (ref. No)								
Yes	**1.460 (0.306)**	**4.304*** **	**2.365**	**7.834**	**1.198 (0.445)**	**3.313** **	**1.384**	**7.934**
Not applicable	-0.213 (0.211)	0.808	0.534	1.223	-0.248 (0.268)	0.780	0.461	1.320
Constant	-2.404 (0.533)	0.090			-1.151 (0.632)	0.316		
χ^2		62.221				38.670		
df		10				10		
R^2 (Nagelkerke)		0.113				0.161		

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$

Table 5e. Logistic Regression: Predicting the Chance of Benefitting From EU Funding Due to Selected Predictors in the Sample and Sub-sample (Continued)

Predictor	Model 4a ($N = 950$)				Model 4b ($N = 303$)			
	B (SE B)	*OR*	*95% LL*	*95% UL*	*B (SE B)*	*OR*	*95% LL*	*95% UL*
Gender (ref. female)	-0.040 (0.213)	0.961	0.633	1.457	0.439 (0.285)	1.552	0.888	2.710
Age	-0.014 (0.008)	0.986	0.971	1.001	-0.007 (0.011)	0.993	0.972	1.014
Place of residence (ref. Village)								
City up to 20.000 residents	-0.601 (0.354)	0.549	0.274	1.098	-0.873 (0.482)	0.418	0.162	1.075
City of 20.000 to 100.000 residents	-0.268 (0.296)	0.765	0.428	1.367	-0.528 (0.408)	0.590	0.265	1.312
City of 100.000 to 500.000 residents	0.013 (0.290)	1.013	0.574	1.788	-0.290 (0.393)	0.749	0.347	1.616
City of 500.000 or more residents	-0.500 (0.390)	0.606	0.282	1.302	-0.057 (0.530)	0.945	0.334	2.670

Education (ref. Primary or basic vocation)								
Secondary	0.553 (0.482)	1.739	0.676	4.472	0.651 (0.592)	1.918	0.601	6.119
Tertiary or higher	**1.102 (0.467)**	**3.012***	**1.206**	**7.519**	**1.344 (0.581)**	**3.834***	**1.227**	**11.976**
Participation in training co-financed by EU funds (ref. No)	**1.953 (0.227)**	**7.051*****	**4.522**	**10.994**	**1.953 (0.297)**	**7.047*****	**3.936**	**12.618**
Receiving information regarding additional EU funds as pandemic support (ref. No)								
Yes	**0.540 (0.246)**	**1.715***	**1.058**	**2.780**	**0.753 (0.358)**	**2.124***	**1.053**	**4.282**
Not applicable	-0.415 (0.311)	0.660	0.359	1.214	-0.252 (0.391)	0.777	0.361	1.673
Suspension of planned investments using EU funds due to the pandemic situation (ref. No)								
Yes	**0.949 (0.348)**	**2.584****	**1.307**	**5.107**	0.722 (0.514)	2.060	0.752	5.639
Not applicable	0.102 (0.246)	1.107	0.684	1.791	0.312 (0.335)	1.367	0.709	2.635
Constant	-2.970 (0.575)	0.051			-2.138 (0.739)	0.118		
^{2}	165.922				100.090			
df	13				13			
R^2 (Nagelkerke)	0.286				0.377			

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$

Discussion

The results of the above analysis indicate that the chance of making a decision to obtain this form of co-financing is increased in two different cases; a higher level of education (H1), and prior participation in training co-financed by EU funds (H2).

Educated people show better developed cognitive and analytical skills (Hanushek, Woessmann, 2020; Lövdén et al., 2020). Thus, it should be

easier for them to gather necessary, up-to-date, complete information and documents in order to apply for external co-funding. It is easier for them to verify relevant data and assess its usefulness at the stage of filling out an application. Familiarity with ICT technologies also makes it easier to fill out and submit an application, especially since they are now submitted in so-called application generators. In turn, those who have already had contact with various forms of external support have experience of what the process of applying for monetary benefits from public funds looks like. Thus, they are more likely to use this form of funding because they are aware of what the requirements are, how to read the documents, and what to pay special attention to. A similar conclusion can be drawn should one take into account the fact that those who have previously participated in training courses co-financed by EU funds are more than 8.5 times more likely to make such decisions (H2). Admittedly, the consequences of participation varied from making the participants more competitive on the labour market, to career advancement and salary increase, to keeping their current job.

For selected respondents, supplementary training was simply dictated by the need for self-realisation. On the other hand, those who did not undertake training co-financed by EU funds cited that they had used other forms of subsidies, or that the offer was too modest, not adapted to their needs, or it was that these people did not need training hence their lack of consideration of it, or they did not know about such an opportunity, and that no one directly offered it to them or that they did not have the time. Indeed, an application process perceived as being formalised, bureaucratic, or requiring subsequent settlements may effectively discourage them from participating in the application process.

In this regard, it should be noted that after adding the independent variable, i.e., previous participation in training, the control variable "age" became significant which, in this case, shows that the older the person, the lower the chance (by 1.5%) that he or she benefits from EU funds. But are age and participation in EU-funded training related? Seemingly yes, since there used to be (before 2004) no such training, as respondents also pointed out. Exploring this direction further, rather exploratory analyses indicate that in the case of participation in EU-funded training, there is indeed a higher participation of older people ($M = 44.19$ versus the average age of non-attendees: $M = 41.03$). This could lead to the conclusion that older people take advantage of the opportunity to develop their competencies more readily than younger people, e.g., due to their professional position as well as ongoing changes in the labour market (Li et al., 2023; Martínez-Alcalá et al., 2021), caused, for example, by technological changes (Pihlainen

et al., 2023). In contrast, the fact of having benefited from any EU funding dominates as regards younger people (M = 41.03 versus the average age of those who do not: M = 44.16). The interaction effect of these two variables on age did not appear as significant, but a significant difference could be observed in the group of those who do not benefit from EU-funded training, among whom younger people reach for EU funds (M = 39.18 versus the average age of those who do not benefit from EU funds: 42.87). However, considering the turnout of respondents in each category, that particular observation would need to be verified by further research.

While the first two hypotheses were confirmed, hypothesis 3 is unsupported in the smaller sub-sample. The relationship as regards those who resigned are more likely to benefit (here more than 4 times) from EU funds than those who did not resign from their planned investments was only confirmed in the entire sample. Thus, this observation also requires further research.

Conclusions

The study undertook to test the above model after adding all the significant, independent variables. Among all the variables tested, age, locality, education, gender (control variables) were included, as well as participation in training co-financed by EU funds, obtaining information about additional EU funds as support during the pandemic, and details on the abandonment of planned investments using EU funds caused by the pandemic situation. All the independent variables are shown to explain the use of EU funds, but the model explains the decision to use funds at 28.6%. Thus, it exploratively points in directions that would require further investigation. A drawback of the model is that, in part, its good performance is due to the fact that a relatively small percentage of respondents used EU funds (14.4%). Thus, it would be necessary to reach out to those who apply for such funds, using the tool designed for this study to re-test the hypotheses.

Nevertheless, the results allow us to conclude that an attractive application environment for a project developer should be characterised by clear and simple instructions, along with an indication of the scope of requirements or identified benefits for potential users. The promotion of EU funds is also key, as respondents admit that they did not know about such forms of funding. Given that people who already receive cash benefits or have benefitted from co-funded training are more likely to decide to apply for funds, it is worth considering centralising the promotion of benefits.

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Katarzyna Bentkowska[*]

Informal Institutions – Measurement and Comparison in European Countries

Abstract

This paper addresses the topic of informal institutions that remain an unexplored part of the institutional system due to identification, operationalisation, and measurement problems. The author concludes that there is a dire need to develop an approach to analysing the rules that govern entities' behaviour that are difficult to comprehend, deeply ingrained, and long-lasting. Therefore, based on data from social surveys, the author has constructed ten indices of informal institutions comprising trust, happiness, bonds with relatives, social capital, interest in politics, tolerance, resourcefulness, religiousness, attitudes to work, and attitudes to traditional values. They present a comprehensible picture of countries' informal institutions and enable the making of comparisons. Later, the author uses the indices to investigate the links between formal and informal institutions in selected European countries and explore their role in providing a stable environment conducive to economic well-being. This is, however, only an example in which informal institutions are vital, and the research can support further studies in various fields. The findings indicate which investigated institutions seem central and worth supporting and which co-occur with lower levels of development.

Keywords: Informal Institutions, Formal Institutions, Economic Well-Being, Institutional Consistency

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Introduction

Claiming that "institutions matter", a claim that appears with regularity in academic texts, seems obvious. Many studies emphasise the role of institutions in the activities of individuals, enterprises, and entire economies. However, despite this immense role, we still do not know much about institutions. One of the most significant shortcomings concerns informal institutions, as most research focuses on their formal counterparts. This is justifiable; formal institutions are more accessible to identify, operationalise, and evaluate. Despite analyses confirming informal institutions' role and emphasising that they are no less important than formal institutions (e.g., Bentkowska, 2021; Boettke et al., 2008; Chavance, 2008; Cruz-García, Peiró-Palomino, 2019; Gërxhani, Cichocki, 2023; Glaeser et al., 2004; Helmke, Levitsky, 2004; Knack, Keefer, 1997; Muringani, 2022; Park, 2023; Pejovich, 1999; Tabellini, 2008, 2010; Williamson, 2009; Williamson, Kerekes, 2011), there is still too little study of the subject. There is no standard theoretical or practical analysis approach, so their nature, origin, and outcomes in different settings remain unclear. The challenges of studying informal institutions are inherent – as they are derived from individuals' acquired experience and value systems, they often remain in the subconscious and not on a database. There are also problems with the delineation between formal and informal institutions. In addition, informal institutions that are deeply embedded and which have developed over hundreds or even thousands of years (Williamson, 2000) are tricky to capture, operationalise, and estimate. Despite these problems with investigating them, we will not understand how institutional systems work without addressing the challenges.

Institutions, understood as the so-called "rules of the game", impose constraints on individuals and create the framework for human interactions (North, 1994, p. 3). According to North's interpretation (1994, pp. 3–9), an institutional system comprises formal and informal institutions supervised by enforcement mechanisms. Formal rules are written down, implemented, and enforced by the state. Informal institutions comprise deeply rooted, unwritten customs, shared rules, traditions, culture, codes of conduct, and behavioural norms. They are created due to interaction between individuals, independently of the state. The author adopts the above interpretation. Therefore, formal institutions are perceived as legal in nature, while informal institutions are nonlegal norms and rules.

Formal and informal institutions should be coherent and complementary for a well-functioning institutional system. In practice,

interaction between institutions may develop differently. Informal institutions can strengthen the impact of formal rules but also weaken or even make them inoperable. Gërxhani and Cichocki (2023) stress that "formal and informal institutions go hand in hand, and their interaction should be an essential part of the new institutional perspective." Their cooperation contributes to institutional resilience against shocks (Buchen, 2024). Seligson and McCants (2021, p. 367) note that informal institutions matter more than one might expect.

As the author has already noted, the research on formal institutions is extensive. They are operationalised in different ways and studied using different approaches. What we still lack is a similar understanding of informal institutions. Ménard and Shirley (2014, p. 559) mention "expanding the empirical and theoretical work on informal institutions" as a challenge the New Institutional Economics faces. Moreover, while there are different approaches to measuring formal institutions, attempts to measure informal institutions remain neglected. As Voigt (2018, p. 2) noted, "the measurement of informal institutions constitutes a weak spot in institutional economics and might even be called institutional economics' most serious challenge". Lipsey (2009, p. 266) underlined that "the absence of a clear causal link between growth and any one institution (or a small set of related ones) makes it extremely difficult to measure the importance of institutions empirically by correlating the existence and nonexistence of a selected set (usually containing two or three items) with various national growth performances". Therefore, analysing an extensive set of informal institutions and considering their role might be helpful.

In her research, the author aims to construct a wide range of informal institutions' indices to enable comparisons in terms of quality and investigations into their role in various fields. Her work was inspired by Kuncic's (2014) analysis attempting to divide different available institutional indicators into homogeneous groups of formal institutions capturing a country's complete formal institutional environment. However, as those indicators are limited to formal institutions, the author intends to base her analysis on informal constraints. A similar conceptualisation of informal institutions is hampered as there are no existing indicators. To create such, the author makes use of questions from social surveys describing attitudes, beliefs, and habits and group them to reflect certain informal institutions. Unlike prior studies, this will not be limited to a narrow operationalisation of exemplary institutions such as frequently-used variables connected with levels of trust. The author uses factor analysis to create the indices and obtained ten of them with this method. They involve trust, happiness, bonds with relatives, social capital, interest

in politics, tolerance, resourcefulness, religiousness, attitude to work, and attitudes to traditional values. Then, the author estimates the appropriate indices to assess institutions' quality in selected European countries. Afterwards, the relationship between formal and informal institutions is explored. The results show divergent patterns in capitalist and post-socialist countries. A simplified evaluation of informal institutions' indices can help investigate their relevance in various fields, however, the author focuses on economic well-being. The findings confirm the crucial role of informal institutions.

This analysis contributes to a better understanding of informal institutions. As the research in this field remains scarce, it proposes how informal institutions can be captured comprehensively. It can also be perceived as part of comparative institutional analysis literature, as it infers the effectiveness of formal and informal institutions' combinations in different countries. Finally, it becomes part of development studies, as it attempts to investigate informal institutions' role in general development.

This paper presents the role of informal institutions and outlines the problems encountered in their analysis, describes the author's approach to investigating informal institutions and their evaluation, explains the relationships between formal and informal institutions analysing their impact on economic well-being and, finally, the conclusions are presented.

Informal Institutions in Analyses

Informal institutions appear in theoretical reflections on the nature of institutions (Boettke, Coyne, 2009; Hodgson 2002; 2006; Richter, 2005; Voigt 2018; 2013), changes in institutions (Aoki, 2001; Chavance, 2008; Greif, Mokyr, 2017; Kingston, Caballero, 2009; Roland, 2004; Seligson, McCants, 2021), and problems with institutional reform and transplanting institutions (Boettke et al., 2008; Eggertsson, 2006). Another important field of consideration concerns the cooperation between formal and informal institutions (Chavance, 2008; Chung, Kim, 2021; Cruz-García, Peiró-Palomino, 2019; Helmke, Levitsky, 2004; Leković, 2011; Pejovich, 1999; Platje, 2008; Williamson, 2009). Such analyses, though referring to different issues, identify the significant links between institutions and explore the influence of their various combinations on economic performance.

References to informal institutions can be found in descriptive studies of certain countries or regions, often with a broad historical perspective (Acemoglu et al., 2001; 2005; Cunningham, Dibooglu, 2020; Lipsey, 2009; Seidler, 2018). A significant advance has also been made due to case studies

and fieldwork confirming the indispensable role of informal rules for effective institutional arrangements (e.g., Murtazashvili, Murtazashvili, 2015; Ostrom, 1990; 2000; 2011). Such studies significantly enrich our understanding of informal institutions. However, due to a wide variety of approaches, varying degrees of detail, and the addressing of different issues, they seem to lack, to some extent, a comprehensive view of informal institutions.

Empirical studies of informal institutions confirm those institutions' role in many areas such as economic development (Aron, 2000; Casson, Della Giusta, Kambhampati, 2010; Cunningham, Dibooglu, 2020, pp. 166–175; Glaeser et al., 2004; Knack, Keefer, 1997; Lipsey, 2009; Tabellini, 2010; Williamson, 2009) but also in specific problems of efficiency in certain areas, e.g., securing property rights (Williamson, Kerekes, 2011), response to shocks and disasters (Bentkowska, 2021; Paniagua, Rayamajhee, 2022; Rayamajhee et al., 2024; 2021; Storr, 2021), impeding or supporting entrepreneurship (Frølund, 2021; Nabisaalu, Bylund, 2021; Smith, Brownlow, 2022), income inequality (Chong, Gradstein, 2019), and informal economy expansion (Gërxhani, Cichocki, 2023; Odera, 2013; Webb et al., 2009). Nevertheless, the studies are confined to a narrow operationalisation of informal institutions and primarily relate to a single variable or a scant set. As noted, this is mainly due to the problems with a lack of consensus on what informal institutions are, the difficulties in operationalisation, and significant obstacles to measurement. Data on indicators related to informal institutions are limited, cover short periods, and are often unsuitable for broad comparative analysis purposes. Therefore, we still lack studies attempting to comprehensively consider the shape of informal institutions in different countries and assess their impact on entities.

Most commonly, informal institutions are operationalised as measures of trust (Chung, Kim, 2021; Cruz-García, Peiró-Palomino, 2019; Muringani, 2022; Tabellini, 2008; 2010) or social capital (Knack, Keefer, 1997). However, there are also narrower measures capturing certain features, such as control over life (Williamson, 2009; Williamson, Kerekes, 2011) or respect and obedience (Tabellini, 2010; Park, 2023; Williamson, 2009; Williamson, Kerekes, 2011).

The proxies used to evaluate informal institutions are often criticised for being subjective, reflecting results of different circumstances or, rather, being outcomes of institutions than institutions themselves (e.g., Voigt, 2018; 2013). As regards being subjective, no social survey data in any field can be perceived as being able to capture actual behaviours, but they still offer essential insight into societies. As to reflecting outcomes of different

circumstances, we may refer to an often investigated proxy, i.e., trust; a low level of trust may result from a particular social trait connected with general distrust or the poor performance of entities and organisations observed in everyday life. This problem, however, concerns not only informal institutions but also formal ones, as they cannot be perceived as *purely* formal since they depend on informal institutions to operate (Hodgson, 2006). Even if some measures are, to a great extent, rather the outcomes of institutions, they still bring us closer to understanding how actual institutions work. Therefore, such proxies can provide essential insights into individuals' attitudes and behaviours, even if they have their limits and cannot be seen as entirely reflective of the whole complexity of informal institutions. Being aware of the limits, we can use them to capture regularities in the operation of institutions. Also, the proxies in this paper might be perceived as not being free of these restrictions. However, as we have not developed superior proxies to describe informal institutions precisely, the author shall refer to her variables as "informal institutions".

Data and Methodology

In her analysis, the author constructed indices of several informal institutions, then calculated their values and assessed how they vary between countries. She also used available data on formal institutions to verify how they connect with informal rules. Finally, the relationship between institutions and economic well-being was verified.

Twenty-two European countries were selected, for which data were available in all four surveys designated for the study. The analysis is restricted to European countries due to the availability of similar, comparable data concerning informal institutions from different sources. A broad spectrum of variables was used at the expense of narrowing the group of countries. The countries comprise capitalist and post-socialist states, which results in two equally-numbered groups of eleven each. The different development trajectories of the two groups may result in the relationships between institutions and their impact on well-being being shaped in various ways.

In the analysis of formal institutions, time series are sometimes used to capture their changes. This is justified, as formal institutions can be modified relatively quickly, and, often, a static picture cannot be relied upon. However, the author has confined her analysis to the latest available data. With profoundly ingrained and slow-changing informal institutions, such an approach seems sufficient; here, changes over time are not very significant.

Data was used from the following:

- European Values Study (EVS, 2020)
- European Social Survey (ESS, 2018)
- European Quality of Life Survey (EQLS, 2018)
- Legatum Prosperity Index (LPI) (2020).

The surveys constitute large-scale, cross-national, repeated research programmes on fundamental human values. They provide insights into European citizens' beliefs, attitudes, values, and opinions. From the surveys, questions were selected that may capture various informal institutions. The answers to the questions enabled an assessment of the intensity of some norms and attitudes in society and thus the strength (quality) of a given informal institution. The answers were grouped to reflect specific institutions, often appearing in various studies. Thus, the surveys' questions constitute the basis for creating informal institutions' indices and calculating their value.

The selection is a proposal of measurable informal institutions that could be considered in comprehensive and comparative studies of institutions. As already mentioned, informal institutions are most commonly operationalised as measures of trust, social capital, or certain narrow features such as control over life. Such proxies are also included in the analysis. However, as informal institutions comprise deeply rooted unwritten customs, shared rules, traditions, culture, codes of conduct, and behavioural norms (North, 1994, pp. 3–9), such operationalisation does not fully reflect the concept. Therefore, in an attempt at enriching the existing approach, the author proposes a more comprehensive range of informal institutions that may be useful for research. The recommended informal institutions do not comprise a complete list. Data availability largely determines their selection. In further research, other institutions can be selected to enrich their picture. The author's approach represents the first proposal for their broad study.

The resulting institutions include:

- Attitudes to traditional values – the extent to which people are attached to conventional, well-established principles and ideals.
- Attitudes to work – insights on how people perceive work and focus on work versus leisure.
- Bonds with relatives – relations with those to whom an individual is closest.
- Happiness – people's perception of life, sense of fulfilment, and their evaluation of achievements and potential possibilities.
- Interest in politics – interest in current events, societies' awareness of various subjects, and political participation.

- Religiousness – the importance of faith in peoples' lives.
- Resourcefulness – individuals' attitudes towards life circumstances and their ability to cope with challenges.
- Social capital – this reflects more general ties with society. Along with the aforementioned "bonds with relatives", the ties mirror the shape of society, possible exclusion, sense of community, and responsibility for others.
- Tolerance – the degree of respect for other people's views, beliefs, and inclinations different from one's own.
- Trust – how different actors perceive and behave towards each other, the nature of all interactions. This also determines the possibilities of encouraging desired individual behaviours and acting according to rule-based personal conduct.

The author used factor analysis to verify the proper selection of questions for each of the ten identified institutions.[1] This made it possible to determine whether the group of questions measures similar phenomena, and also to determine the scale's internal structure and to extract the component factors. It can thus be shown whether latent factors can describe different variables. The number of factors was determined comprising a given informal institution with the Kaiser criterion – the eigenvalue had to exceed the value of one. The factors were defined using the Varimax orthogonal rotation.

Finally, based on the rotated component matrix, the author obtained a few factors for each institution arranged according to the size of the variables' factor loadings. Table 1 below shows the composition of each informal institution resulting from factor analysis.

To check the appropriate selection of questions and determine the internal consistency of each institution, the author conducted a Cronbach's alpha test.[2]

Based on factor analysis, indices were estimated for the identified informal institutions. They were calculated as weighted averages, considering the values of the individual factors' loadings that make up a given institution.[3]

[1] The necessary conditions for the factor analysis (value of the determinant, KMO and Bartlett's test) are fulfilled.

[2] It is generally assumed that the value of Cronbach's alpha test should be at least 0.7 for the scale to be considered reliable; sometimes, though, even 0.6 is acceptable. In the author's analysis, scales for all institutions meet this condition – the value of Cronbach's alpha is often very high and exceeds 0.9. It is minimally lower than the value of 0.7 only in two cases ("Bonds with relatives", and "Attitudes to work").

[3] The calculation was the following (on the example of the *Trust* index) – three factors explain 85.8% of the variables' variance – the first factor is 39.7%, the second is 27.8%,

Table 1. A Composition of Informal Institutions Based on Factor Analysis

Attitudes to Traditional Values	Attitudes to Work
Approve if a person: - chooses never to have children (ESS) - lives with a partner outside of marriage (ESS) - has a child with a partner without marriage (ESS) A child suffers due to having a working mother (EVS) A man's job is to earn money; a woman's job is to look after the home and family (EVS) Men make better business executives than women (EVS) Men make better political leaders than women (EVS) When jobs are scarce, men have more right to a job than women (EVS) A university education is more important for a boy than for a girl (EVS)	**Perception of work as a value** Your willingness to teach children hard work at home (EVS) The importance of leisure time in your life (EVS) People who do not work become lazy (EVS) It is humiliating to receive money without working (EVS) **Willingness to work** The importance of work in your life (EVS) Preferred number of working hours (EQLS) Work always comes first (EVS) **Perception of leisure time** The importance of: - generous holidays in a job (EVS) - good hours in a job (EVS) **Sense of duty towards society** Work is a duty towards society (EVS)
Bonds with Relatives	**Happiness**
Close relationships The number of people with whom you can discuss intimate and personal matters (ESS) Satisfaction with family life (EQLS) The opportunity to make friends (Legatum) The frequency of meeting with friends, relatives or colleagues (ESS) **Personal contact** The frequency of face-to-face contact with: - family members or relatives (EQLS) - friends or neighbours (EQLS) **Remote contact** The frequency of phone/internet contact with: - family members or relatives (EQLS) - friends or neighbours (EQLS) **Support in a close environment** I feel close to people in the area where I live (EQLS) Help from family and friends when in trouble (Legatum)	**Satisfaction with everyday life** In my daily life, I seldom have time to do the things I enjoy (EQLS) Job satisfaction (EQLS) Satisfaction with: - accommodation (EQLS) - education (EQLS) My daily life has been filled with things that interest me over the last two weeks (EQLS) I have felt calm and relaxed over the last two weeks (EQLS) I feel that the value of what I do is not recognised by others (EQLS) I have felt particularly tense over the last two weeks (EQLS) **Overall life satisfaction** Taking everything into consideration, how happy you are (EVS) Satisfaction with your life (EVS) **Optimism** Optimism about: - children's or grandchildren's future (EQLS) - one's own future (EQLS)

and the third is 18.4%. Since 85.8 is the total, i.e., 1, 39.7% is x. Hence, the first factor weighs 39.7 x 100/85.8 and so 0.46, the second 0.32, and the third 0.21. The final trust index is 0.46 x factor 1 + 0.32 x factor 2 + 0.21 x factor 3. Their value was calculated as the variables' arithmetic mean for the two indices consisting of a single factor.

Interest in Politics	Religiousness
Political participation Voting in elections at the national level (EVS) The importance of politics in your life (EVS) Political interest (ESS) Posted or shared anything about politics online in the last 12 months (ESS) Voting in elections at the local level (EVS) **Following political events** The frequency of following politics: - on television (EVS) - in the daily papers (EVS)	The importance of religion in your life (EVS) Belonging to a religious denomination (EVS) Your willingness to teach children religious faith at home (EVS) How religious are you? (ESS) Your frequency of praying apart from at religious services (ESS) The importance of God in your life (EVS) Your frequency of attending religious services (EVS)
Resourcefulness	**Social Capital**
Ability to handle problems When things go wrong in my life, it generally takes me a long time to get back to normal (EQLS) Life has become so complicated today that I almost cannot find my way (EQLS) I find it difficult to deal with important problems that come up in my life (EQLS) I feel I am free to decide how to live my life (EQLS) **Control over life** Plan for the future or take each day as it comes? (ESS) Your willingness to teach your children independence at home (EVS) How much freedom of choice and control do you have over your life? (EVS)	**Social participation** The frequency of participation in social activities of a club, society, or association (EQLS) Have you: - boycotted certain products in the last 12 months (ESS) - signed a petition in last 12 months (ESS) - donated money to charity? (Legatum) I feel left out of society (EQLS) **Social tension** Tension between: - older and younger people in the country (EQLS) - poor and rich people in the country (EQLS) - management and workers in the country (EQLS) - men and women in the country (EQLS) **Social concern** Concern with: - people in the neighbourhood (EVS) - fellow countrymen (EVS)
Tolerance	**Trust**
Tolerance of diversity Gays and lesbians are free to live life as they wish (ESS) Ashamed if a close family member is gay or lesbian (ESS) When jobs are scarce, employers should give priority to native people over immigrants (EVS) Gay and lesbian couples have the right to adopt children (ESS) Do not like: - homosexuals as neighbours (EVS) - people of a different race as neighbours (EVS) - Jews as neighbours (EVS)	**Personal trust** Trust in people: - you know personally (EVS) - you meet for the first time (EVS) - of a different nationality (EVS) - in your neighbourhood (EVS) Most people can be trusted / You cannot be too careful in dealing with people (ESS) Most of the time, people are either helpful or mostly looking out for themselves (ESS) Most people try to take advantage of you or try to be fair (ESS)

Perceived tolerance of immigrants (Legatum)	**Trust in organisations**
Your willingness to teach children tolerance and respect at home (EVS)	Confidence in:
Perceived tolerance of ethnic minorities (Legatum)	- environmental organisations (EVS)
Attitude towards immigrants	- major companies (EVS)
The country should allow:	- police (EVS)
- many/few immigrants of the same race/ ethnic group as the majority (ESS)	- education system (EVS)
- many/few immigrants of different races/ ethnic groups from the majority (ESS)	**Trust in the media and government**
	Trust in the news media (EQLS)
	Confidence in the government (EVS)

Source: the author's own elaboration.

Afterwards, the author calculated the aggregate index of informal institutions for the investigated countries. It was estimated as an arithmetic mean of 10 indices of informal institutions.[4] Its values allow for assessing the quality of the informal institutions. The aggregated index will be used in further analysis alongside the individual indices describing informal institutions.

Since the role of informal institutions cannot be investigated without reference to formal institutions, the author intends to capture the interactions as well. To evaluate formal institutions in selected countries, the latest available data from the Worldwide Governance Indicators (2021) was used, assessing the following (Kaufmann et al., 2010):

- Voice and Accountability – the ability of citizens to participate in selecting their government, freedom of expression, freedom of association, and free media,
- Political Stability and Absence of Violence – the risk of a destabilisation of the authorities, and politically motivated violence and terrorism,
- Government Effectiveness – the quality of public and civil services, the degree of their independence from political pressure, the quality of policy formulation and implementation, and the credibility of government commitments,
- Regulatory Quality – the ability of government to formulate and implement sound policies and regulations supporting private sector development,
- Rule of Law – actors' confidence and respect for accepted norms in society, in particular regarding the enforcement of contracts, property rights, the police, and the courts,

[4] As the correlation of the three indices with GDPpc indicates inverse co-occurrence, when the index of informal institutions was calculated, the scales were inverted so that high values of all indices coexist with the high GDPpc.

- Control of Corruption – the extent to which public power is exercised for private gain, and the so-called "capture" of the state by private interest groups.

As in the case of informal institutions, the author calculated the aggregate index of formal institutions for the studied countries. It was assessed as the arithmetic mean of the 6 WGI indices. It will be used as a measure of the formal institutions' quality.

In the analysis, the author also considers the relationship between institutions and economic well-being in the selected European countries using the following indicators as measures:

- GDP per capita,
- Life expectancy at birth (HDI),
- Expected years of schooling (HDI),
- Living conditions (LPI),
- Health (LPI),
- Education (LPI),
- Natural Environment (LPI),
- The Poverty Gap,
- The Gini Index.

Having arranged the indices and all the data, the author seeks answers to the following research questions:

- How are the identified informal institutions in the selected European countries shaped?
- What is the relationship between formal and informal institutions?
- Does the index of informal institutions show a relationship with economic well-being?
- Which informal institutions are most strongly associated with economic well-being?

Formal and Informal Institutions

As noted, the relationships between formal and informal institutions are highly complex. Both formal and informal institutions can be strong, providing a stable environment conducive to economic well-being, yet can also be weak, thus potentially disrupting the system. They can also substitute for one another in generating institutional quality (Park, 2023). Therefore, countries may have different combinations of the quality of formal and informal institutions. This is represented by the matrix below, which is determined by the strength of formal and informal institutions (Table 2). It is inspired by Helmke and Levitsky's (2004) typology of informal institutions, however, the categories were slightly different, as the

first one captured the degree to which formal and informal institutional outcomes converge, and the second included the effectiveness of the relevant formal institutions. A similar matrix is considered by Williamson (2009), though the categories are not named in terms of mutual interactions and their impact on the institutional system.

Table 2. A Matrix of Formal and Informal Institutions

	Weak Formal Institutions	**Strong Formal Institutions**
Strong Informal Institutions	**Substitutive** Strong informal institutions fill the gaps of weak formal institutions.	**Supportive** Both institutions are strong and mutually reassuring, creating an effective framework for actors to operate and develop.
Weak Informal Institutions	**Inhibiting** Both institutions are weak; neither supports nor fills gaps in the other. Therefore, they do not provide an effective framework for actors and well-being.	**Divergent** Weak informal institutions impede the effective functioning of formal institutions.

Source: The author's own elaboration.

The most desirable combination is that of supportive institutions; by working effectively, they support each other. There is no undermining of the rules, and acting according to both formal and informal institutions should produce similar results. If there are any gaps in the institutions, they can be quickly filled. As a result, they offer a stable and predictable framework for actors.

With divergent institutions, strong formal institutions encounter weak informal institutions, and their performance is undermined. Weak informal institutions fail to support the formal institutions, fail to fill the possible gaps, and may even act against them. This occurs when actors cling to rules different from those imposed by formal institutions and circumvent them. It then becomes difficult to anticipate the actors' actions and design good formal institutions, as their effects may differ from those intended. Such divergence can lead to changes in formal institutions and a deterioration in their quality.

The formal rules are ineffective with substitutive institutions, but informal institutions can fill in the gaps and gradually even lead to changes in the formal institutions. This combination may prove to be more favourable than the combination described above. Formal institutions can be changed relatively quickly, and the reliance on strong informal institutions supports this. Countries with substitutive institutions appear to have the potential to develop a stable environment.

In the case of inhibiting institutions, it is challenging to expect substitution or complementarity of institutions, as both types are ineffective. Thus, there is neither mutual support of institutions nor a fulfilment of deficiencies. This is the least desirable combination and seems unfavourable to economic well-being.

The countries in the author's analysis seem to have a very strong relationship between the quality of institutions; the indices of formal and informal institutions show a robust correlation (0.870) (Table 4). This evidences that either weak or strong types of both institutions characterise them. In the scatter plot (Figure 1), countries are divided into four groups based on the relative strength of institutions (determined by the average of the calculated indices of formal and informal institutions). Higher values of the indices indicate higher quality of institutions.

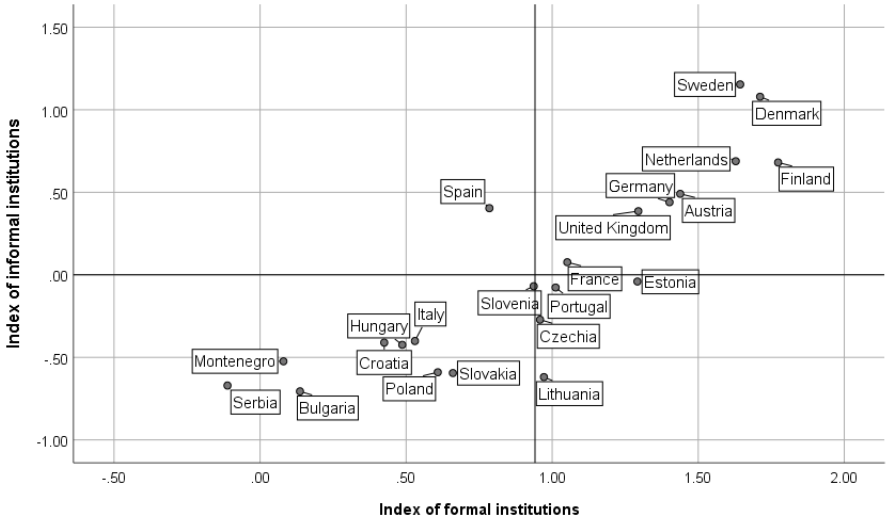

Figure 1. Indices of Formal and Informal Institutions in Selected Countries

Source: the author's own elaboration.

The only country with relatively stronger informal institutions and weaker formal institutions is Spain (substitutive institutions). Portugal, the Czech Republic, Lithuania, and Estonia all have better-than-average formal institutions, but weaker informal institutions (divergent institutions). The scatter plot shows an interesting relationship in that strong types of both institutions (supportive institutions) are found only in capitalist countries. Northern European countries stand out here. Concerning the

above considerations, this is the most desirable combination to promote stability and predictability in operating conditions. In most post-socialist countries (plus Italy), both institutions are weak (inhibiting institutions). As indicated, this combination of failing and uncooperative institutions does not provide suitable conditions for well-being. The outcomes confirm the results of other studies showing that the quality of institutions in post-socialist countries remains faltering (e.g., Chavance, 2008; Gërxhani, Cichocki, 2023). It also indicates that informal institutions have not developed sufficiently to support formal institutions (Bentkowska, 2021). Only a few post-socialist countries can be included in the group with relatively stronger formal institutions, but none make it to the group with stronger informal institutions. This confirms that informal institutions are more resistant to change.

Institutions and Economic Well-Being

The role of informal intuitions can be analysed in various fields, however, the author will focus on the example of economic well-being. Hence, it is inescapable to mention the controversies surrounding the nature of these relations. It remains questionable whether effective institutions cause growth or, inversely, growth enables effective institutions (Chang, 2011; Gleaser et al., 2004). However, this paper is not aimed at inquiring into the nature of this relationship, as economic well-being is only an example used to demonstrate the potential impact of informal institutions and possible areas of further research.

The index of informal institutions is strongly correlated with GDPpc (0.933).[5] The index of formal institutions also shows a robust correlation with GDPpc, although it is slightly lower (0.883) (Table 3). The author calculated a partial correlation to verify whether the relationship between the informal institution index and GDPpc might be apparent. She used the index of formal institutions as the control variable because the formal institutions' role in development is analysed more often, and the high correlation coefficient also confirms its strong relationship with GDPpc. The partial correlation, however, also indicates a strong relationship between the index of informal institutions and GDPpc (0.711) (Table 5). Such results are consistent with those of other studies. As an example, Muringani (2021) shows that "informal and formal institutions matter for economic growth, individually and in combination". Park (2023) indicates that countries characterised by high-quality formal and informal institutions tend to have an institutional comparative advantage.

[5] The level of significance for all the investigated correlations is 0.05.

Williamson (2009) confirms that formal institutions are only successful when embedded in strong informal institutions.

Table 3. Correlations Between Institution Indices and Economic Well-Being

N =22 (* sig. at 0.05)	Trust	Happiness	Bonds with relatives	Social capital	Interest in politics	Tolerance	Resourcefulness	Religiousness	Attitudes to work	Attitudes to traditional values	Index of informal institutions	Index of formal institutions
GDPpc	.907*	.830*	.446*	.815*	.799*	.856*	.827*	-.582*	-.553*	-.851*	.933*	.883*
Life expectancy at birth	.640*	.498*	.507*	.624*	.459*	.837*	.579*	-.407	-.422	-.785*	.724*	.638*
Expected years of schooling	.850*	.791*	.411	.656*	.646*	.718*	.812*	-.541*	-.691*	-.780*	.855*	.826*
Living Conditions	.882*	.793*	.400	.729*	.731*	.872*	.802*	-.602*	-.593*	-.838*	.908*	.913*
Health	.758*	.640*	.499*	.711*	.642*	.871*	.578*	-.496*	-.438*	-.837*	.826*	.669*
Education	.853*	.721*	.279	.586*	.659*	.683*	.721*	-.644*	-.602*	-.717*	.813*	.891*
Natural Environment	.664*	.689*	.097	.400	.516*	.369	.720*	-.514*	-.383	-.486*	.610*	.754*
GINI	-.414	-.518*	.043	-.174	-.184	-.177	-.475*	.402	.224	.307	-.365	-.515*
Poverty Gap	-.499*	-.513*	-.097	-.423*	-.306	-.570*	-.445*	.688*	.343	.611*	-.655*	-.650*

Table 4. Correlations Between the Index of Informal Institutions and Index of Formal Institutions

	(* sig. at 0.05)	Index of formal institutions
Index of informal institutions	Pearson Correlation	.870*
	N	22

Table 5. Partial Correlation Between the Index of Informal Institutions and GDPpc

Control Variables			GDPpc
Index of formal institutions	Index of informal institutions	Correlation, (* sig. at 0.05)	.711*
		df	19

The role of informal institutions is also evident when considering other indicators of countries' economic well-being (Table 3). "Life expectancy" and "Expected years of schooling" show a strong relationship with almost all indices of informal institutions. Correlations are also confirmed for aggregate indices of formal and informal institutions, while the relationship is more robust in the latter case. The aggregate indices of formal and informal institutions strongly correlate with "Living conditions", "Health", and "Education". Most of the individual indices

of informal institutions also correlate with these variables. Regarding the Natural Environment and measures of social inequality, the links are less apparent.

Summarising the above conclusions, it is worth referring to the role of the individual indices. "Trust", "Tolerance", "Resourcefulness" and "Attitudes to traditional values" seem the most crucial of all the informal institutions analysed. They indicate relationships with all or almost all measures of economic well-being, and their strength is the most significant. "Happiness", "Social capital" and "Interest in politics" are also associated with almost all measures of well-being, although these relationships are somewhat less intense. Regarding "Religiousness" and "Attitudes to work", the relationships are not as strong as with the other indices, although they can still be described as strong or moderate. 'Bonds with relatives' appear less critical for well-being, as there is no relationship with some of the measures, and the strength of those confirmed is lower.

Remarkably, "Religiousness", "Attitudes to work" and "Attitudes to traditional values" are negatively correlated with the development measures. In the case of "Attitudes to work", this can be explained by the fact that poorer countries are more focused on development and their peoples place more emphasis on work. The negative correlation in the case of "Religiousness" and "Attitudes to traditional values" shows that the high intensity of these institutions in a society is associated with lower development. This may indicate their negative impact on a country's development. However, poorer countries may be more inclined towards religion and tradition.

Conclusions

This paper presents an attempt to investigate informal institutions. Based on available social surveys, the author has tried to capture and measure ten deeply ingrained informal institutions governing societies' perception of reality, attitudes to life circumstances, and determining behaviours. The awareness of the quality of informal institutions can help predict institutional performance.

The paper fills the evident gap in the literature concerning informal institutions. It moves away from focusing mainly on formal rules while both components of the institutional system should be considered if we want to obtain the complete picture. In addition, because of the links between institutions, we also do not perceive how formal institutions operate since they can be supported and complemented by informal rules but also be hampered by them. Despite the different possible combinations

of formal and informal institution quality, most investigated European countries have developed either weak or strong institutions in both areas. This conclusion shows that the quality of institutions is strongly related. It also indicates that post-socialist countries still require improvements in both institutions, especially since the study proves the link between the quality of institutions and well-being. Of particular importance, the role of often-neglected informal institutions is confirmed here. According to the inferences concerning the most potent institutions, trust, tolerance, resourcefulness, and attitudes to traditional values can be included here. They seem crucial for economic well-being, so they require further attention, as their role is not limited to this area.

Findings on the role of informal institutions have some practical implications as they indicate which fields it is crucial to support. Even if informal institutions are reluctant to change deliberately, there are still some possible improvements which can be made, at least in the long run. Governments may do their best to increase trust, for example, by improving their own performance. This can also, to some extent, support the building of social capital, for example, by encouraging citizens to become involved in various initiatives. Social campaigns and promoting desired attitudes can persuade people to be more open or resourceful. As mentioned, economic well-being is combined with strong informal institutions. Strong formal institutions are insufficient if appropriate informal rules do not accompany them.

The most significant limitation of the research is that it does not exhaust all informal institutions. Including further institutions in future research is essential to capture their shape as comprehensively as possible. Another limitation is the small number of countries included due to limited data availability, thus, it is worth attempting similar studies on a larger group of countries. Nevertheless, the author's research enables the role of informal institutions to be investigated in various fields. Although their position has started to be recognised, there is still little empirical analysis. The study confirms that all the identified informal institutions are related to economic well-being. However, in further research, the role of informal institutions could be verified in other more detailed problems, for example, the protection of property rights, the performance of contracts, the structure and level of transaction costs, the agency relationship, quality of governance or institutional change.

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Energy Lobbying in the Decision-Making Process of the European Union

Abstract

Lobbying is part of social life and constitutes an informal path of influencing politics at the national and international levels. The EU is a prime example of an organisation wherein Member States act as lobbyists trying to influence EU policy. The energy transformation that has begun is a process that is particularly dependent on the shaping of climate and energy policy at the European Union level should one compare it to previous socio-technical transformations, with interest advocacy playing an important role in this process. This article aims at examining and explaining the activities and influence of Germany's lobbying on the shaping of energy policy in the European Union (EU). The subject of the research is Germany's lobbying strategy based on the Europeanisation of the country's energy transition (in German, *Energiewende*). The research shows that lobbying activities have had the intended effect of Europeanising Germany's *Energiewende*, which has allowed for increased innovation in technology and as well as increased production of products from the broader environmental sector. Furthermore, these activities have created new jobs in the sector, which has kick-started and strengthened the German economy. In conclusion, the more resources a Member State has and the longer it has been a member of the EU, the better the conditions are for effective lobbying.

Keywords: Lobbying, Energy Lobbying, Energy Transition, Germany's Energy Lobbying, Advocacy of Interests, European Union

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Introduction

In today's world, every entity is forced to engage with actors in its macro, meso, and micro-environments. Such activities are aimed at lobbying either for solutions favourable to a given entity or against any potentially unfavourable ones. Lobbying is firmly entrenched at many levels of a state's functioning, whether in the economic, political or social scientific spheres. The establishment of an adequate network, especially one of an interpersonal nature, translates into a strong negotiating position. On the one hand, political competition between pressure groups leads to a mutual balancing of the burdens imposed on society and the government subsidies granted. On the other hand, however, actions taken by various pressure groups aim to guarantee the partisan economic benefits of a specific stakeholder group, thus limiting societal benefits as a whole. Energy policy is of greatest interest to various pressure groups around the world. However, it is of particular interest to European Union (EU) Member States, mainly due to the energy transition underway in Europe which is causing numerous problems for many countries.

The aim of this article is to examine and explain the activities and impact of lobbying by Member States in shaping EU energy policy. The focus is on Germany's lobbying strategy based on the Europeanisation of the country's ongoing energy transition (*Energiewende*), as the transition from fossil fuels to renewable energy sources (RES) is a necessary prerequisite for wider decarbonisation, which is a particularly difficult process for countries dependent on fossil fuels. Given the stated objective, it became necessary to answer the following research questions:

1. How does energy lobbying used by Member States influence the shaping of the EU's energy policy?
2. How did Germany's lobbying activities influence the Europeanisation of *Energiewende*?
3. What tangible effects did Germany's promotion of its preferences have?

To understand and explain Germany's energy lobbying, leading to the Europeanisation of *Energiewende*, the study used an integrated literature review method, which allowed for grouping literature sources based on adopted conceptual criteria. ScienceDirect, a database of scientific articles, was mainly used. Empirical data and materials to answer research questions were collected through a qualitative analysis of: EC texts on EU legislation; amendments proposed by the Council and the European Parliament during the negotiations; and the positions of Member States and interest groups towards Germany's diplomatic actions aimed at

promoting climate and energy policy based on renewable energy and striving to decarbonise the economy.

This article consists of four parts. After an introduction, the theoretical background of the development of lobbying is presented with an especial focus on the formation of the advocacy phenomenon in the European Union. Section 3 analyses Germany's lobbying activities in the Europeanisation of *Energiewende*. Section 4 presents the conclusions of the research.

Lobbying as a Tool to Influence Policy

In the modern world, every actor is forced to establish contact with various other actors present in their macro and micro environments in order to lobby for favourable legislative solutions or, conversely, against unfavourable ones (Soimu et al., 2011, pp. 808–809). Lobbying is understood as all kinds of activities carried out by individuals, groups or organised citizens in order to influence decisions taken by public institutions (Matsueda, 2020, p. 2). It is an important element of contemporary democratic processes, and when it takes the form of dialogue, it provides a link between citizens and wider authorities, allowing for active public participation both in the exercise of power and in its supervision (Kurczewska, Molęda-Zdziech, 2002, p. 13).

The mechanism of exerting influence, having appeared in ancient times, is a long-standing phenomenon, with Britain and the United States being considered the cradle of advocacy (Paradowska, 2000). Lobbying is, therefore, a specific form of political action involving the deliberate conduct of an individual or group of individuals pursuing their own interests directly or indirectly related to political power (Malmborg, 2022, p. 2). These behaviours are characterised by a specific organisation of activities, known as a lobbying strategy. The implementation of the strategy depends on a number of factors, among which the most important is the specificity of the operating environment.

The literature on the subject distinguishes three features that facilitate the classification of the lobbying phenomenon. Firstly, the basis of any lobbying activity is the desire to exert influence. Secondly, lobbying is a link between citizens and government representatives in the communication process. Thirdly, lobbying is a form of communication through which pressure is applied (Kurczewska, Molęda-Zdziech, 1999, p. 50).

Competition in the economy is beginning to go beyond the market aspect of rivalry, with a new space of competition emerging – the competitive advantage of the company, achieved through marketing and

public-relations instruments. Now, found among the cohort of people and institutions involved in lobbying, representatives of economic interests are a very important group, and the creation of a positive image and the effective representation of one's own interests through the creation of appropriate relationships with all stake-holders allows goals to be realised via the influencing of the environment (Sławik, 2009, p. 10). Thus, well-formed advocacy can become a source of competitive advantage (Piechowicz, 2013, pp. 15–16).

Lobbying in the European Union

Lobbying is a permanent feature of the institutional and decision-making system in the EU. The spectacular development of this phenomenon is a consequence of the integration of interest groups into the legislative process. Lobbying in the EU is of great interest among researchers (e.g., Gullberg, who shows that interest groups lobby both their allies and enemies on a given issue but under completely different conditions. There is also Markussen and Svendsen, who examined the extent to which dominant interest groups influenced the final shape of the EU greenhouse gas market (Gullberg, 2008a, pp. 2964–2972; Markussen, Svendsen, 2005, pp. 245–255). Transparency and openness are basic principles of the EU's concept of good governance in public administration, and, while first defined in a White Paper adopted by the European Commission in 2001, their final form was enshrined in the Lisbon Treaty, specifically in Article 15 of that piece of legislation. Those principles formalised the growing phenomenon of lobbying in the European Union, confirming the participation of the various interest representations in the process of European law-making and decision-making that shapes Community policy (Sapała, 2015, p. 72). The enlargement of the European Community has contributed to an increase in the number of interest groups and has influenced the Community lobbying market. Lobbying organisations from the Member States became part of European pressure group associations or undertook independent lobbying activities. There are now several thousand interest representatives in Brussels, most of whom represent the interests of the wider business community, and their forms of organisation, strategies, and tools to influence the decision-making process are in a state of constant evolution. The system of interest representation is diverse, with 70% of lobbyists representing business interests and the remaining 30% representing diffuse social interests (Coen, Richardson, 2010, pp. 3–18; Annual report, 2022, pp. 14–18). Countries that are more economically mature have been quicker to find and adapt to interest advocacy activities,

while members with a lower level of economic development find it more difficult to find their way in the reality that is EU lobbying, as there appears to be an acceptance problem in those countries.

Lobbying in the EU takes a softer form than in individual Member States and usually has nothing to do with providing financial support to EU officials. Advocacy for economic interests is most prominent in Brussels. This type of lobbying has existed since the creation of the European Communities in the 1950s and 1960s, at which time it was concentrated around the coal and steel sector and agricultural policy, but has grown rapidly in other areas as integration deepened and since the single market was created (Kurczewska, 2011, p. 76).

The European Union has a complex institutional structure. Indeed, the complexity of decision-making affects the way lobbyists operate. The EU presents interest groups with the dilemma of choosing between multiple roads of access to its structures while offering them the opportunity to influence the European legislative process (Greenwood, 2017, pp. 28 –29).

Lobbyists, just as in Western political systems, contribute at the supranational level to agendas, to details of proposals, and to the choice of measures and modes of policy implementation. Typically, advocacy is associated with issues where interests are spread among a larger number of actors and subject to different political action involving diverse forces. It is worth noting that the institutional diversity in the European community makes it difficult for lobbyists to enter this level, which thereby excludes smaller players from the game. This state of affairs favours the predominance of established actors in the European/international arena (Schendelen, 2006, p. 92). The influence of interest groups and lobbyist countries on policy-making depends largely on the given political matter, and the environment and factors influencing a given political issue may be favorable or unfavorable for interest groups. Therefore, groups or states that lobby decision-makers in a favourable issue context should find it easier to succeed in their lobbying activities than interest groups that face an unfavourable issue environment (Mahoney, 2007, pp. 40–41).

Interest groups in the EU can be divided according to various criteria. One of the most frequently used typologies is the one based on the transparency register, and interest groups can be divided into:

- Consulting companies, law firms, self-employed consultants (e.g., Schuttelaar & Partners – S&P);
- In-house lobbyists and trade/business professional associations; (e.g., BUSINESSEUROPE);
- Non-governmental organisations (the Renewable Energy Policy Network for the 21st Century – REN21);

- Think tanks, research and academic institutions (e.g., Główny Instytut Górnictwa – GIG);
- Organisations representing local, regional and municipal authorities, other public or mixed entities, etc. (e.g., the European Energy Network – EnR);
- Organisations representing churches and religious communities (Transparency Register, 2024).

Non-affiliated lobbying, which includes consultancies and law firms, is receiving increasing attention in the EU forum. They act on behalf of large companies, representing their interests for a fee. Other representatives of non-affiliated lobbying are professional lobbyists, who are former staff members of EU institutions, and who are highly valued on the European lobbying market due to their knowledge and experience in that field (Piechowicz, 2013, p. 207; Massaro, 2019, pp. 1–3).

The most important institutions involved in legislative processes in the European Union are the European Commission (EC), the European Parliament (EP), and Council of the European Union (CJEU). The European Commission is one of the main targets of lobbyists, as it oversees the application of EU law and implements the budget and manages programs. This particular institution has legislative initiative and performs coordination, executive, and management functions. This means that, unless otherwise provided by law, Union legislative acts can only be adopted on a proposal from the Commission. The Commission is composed of 27 members, so-called "Commissioners", who are elected for a five-year term by its President. Interest groups are an important element in legitimising the activities of this institution, and lobbyists provide expert information and draw attention to the possibility of possible complications, at a particular stage of decision-making. Lobbyists are, therefore, in constant contact with the Commissioners (Mrozowska, 2014, pp. 109–110). In addition, the Commission often finds real support in the interest representatives for its decisions and can influence the governments of individual EU members through national or international pressure groups (Nugent, 2010, p. 196; Civitas, 2015).

Another institution around which the efforts of lobbyists are concentrated is the European Parliament. It is worth noting that access to the EP appears to be easier than for the Commission or the European Council, as plenary sessions and most committee meetings are open to the public (Mrozowska, 2014, p. 112; Hooghe, Marks, 2001, p. 8). Lobbying activities in this institution consist of directly influencing MEPs and, especially, rapporteurs or chairs of the many different committees during the start of the drafting of reports and related discussions. Most pressure

groups try to establish contact with specific EP political groupings as they support rapporteurs from their faction. As research shows, political groups exert a significant influence on Parliament's working methods (Hardcare, 2011, pp. 99–102). In addition, by members of political parties establishing contact with lobbyists, these factions both support the formation of international coalitions on specific issues and foster the building of unanimity, which has a crucial role in the functioning of the institution (Eising, 2007, p. 206).

The third forum for lobbying in the EU is the Council of the European Union, which is an intergovernmental institution with one representative at the ministerial level from each Member State. Member States are represented in the Council by the ministers responsible for the matters on the agenda, hence the Council does not have a permanent composition. The Council is headed by a representative of the country holding the EU Presidency. Akin to Parliament, the Council has legislative and budgetary functions. In the legislative phase of the procedure, when the Council takes the final decisions, national pressure groups have the possibility to influence the ministries in their country. It is worth emphasising that intervening in the European Council requires maintaining good relations with both the representatives of one's own country and other MEPs (Mrozowska, 2014, pp. 113–114; Klüver, Braun, Beyers, 2015, pp. 10–11).

The lobbying strategies of European employers' and industry groups are based on a long-term perspective. Their activities cover a broad spectrum and do not just focus on a single selected issue. They therefore carry out what is known as general lobbying, which aims to build trust with decision-makers, co-shape the public debate on climate policy, and consequently influence decisions on specific issues (Gullberg, 2008b, pp. 167–169).

When looking at the phenomenon of lobbying in the energy sector, one cannot fail to mention environmental organisations. At the end of the 1990s, with the acceleration of environmental policy development, European environmental associations became an important partner in environmental policy-making (Kurczewska, 2011, p. 164). Unlike business (sectoral) organisations, environmental associations are forced to deal with a wide variety of fields, ranging from the problem of environmental pollution, to the impact of smog on human health and life, to the genetic modification of food. At the same time, those associations' financial and organisational resources are limited. Therefore, they have to choose their priorities carefully in order to achieve their goals. A turning point was the increasing number of companies that decided to implement new environmental regulations because they saw them as an opportunity to

increase both energy efficiency and their profitability. Hence, one of the ways in which many environmental measures can be implemented is through alliances between environmental organisations and businesses. Such cooperation gives producers the opportunity to increase their profits and enables a given company to be perceived as being responsible for a common good such as the environment, taking into account the legal framework set by the EU. Environmental organisations, on the other hand, know that they do not have the resources to fight climate pollution by themselves, so they look for actors who are well positioned in the market and have the potential to modify their business strategy to be more environmentally friendly. Such unbureaucratic coalitions make a positive contribution to the development of new technologies based on renewable energy sources and to environmental policy (Kurczewska, 2011, pp. 193, 203). As research conducted by A.T. Gullberg has shown, in the area of climate policy, business organisations lobby the EP, the EC, and the CJEU, but they prefer to cooperate with the EC rather than with the EP. Conversely, environmental organisations lobby mainly in the EP (Gullberg, 2008b, p. 169).

Lobbying in the EU on the Example of RES – Europeanising Energiewende

For more than a quarter of a century, the EU has been in the process of recognising the strong link that exists between the energy sector and environmental concerns. For this reason, environmental objectives have been an integral (and more recently a priority) element of EU energy policy. The biggest lobbyist as regards this issue among all EU members is Germany. This is linked to the German government's decision on the country's energy transition.

Energiewende is the term adopted by the German government to denote a state-supervised turn away from fossil fuels and nuclear power towards renewable energy sources and energy efficiency. Climate change, oil crises, rising hydrocarbon prices, and problems with hydrocarbon scarcity were the main reasons for the sweeping changes to the German energy system. The process began many years ago, and the basis for the measures taken was the German Power Supply Act, which established the obligation to purchase and promote green energy from 1991 (Report of the H.B. Foundation, 2015, pp. 7–8). After the Green Party entered government, there was a change in the previous energy policy. In 2000, the Renewable Energy Sources Act came into force, which created some of the best conditions in the world for investment in this industry, giving

investors a guarantee of receiving energy produced at favourable prices. German decision-makers were particularly keen on the development of RES in EU countries, as this was to facilitate their own energy transition. The development of RES in Germany led to the development of a new industrial policy concept, which is based on the assumption that a global economy increasingly based on depleting fossil hydrocarbon resources will have to look for other alternative energy sources. The German green energy equipment industry is thus set to cash in on the global trend of greening the economy. The new premise of Germany's policy has united environmental advocates and industry representatives (Poplawski, Bajczuk, 2019, p. 67). The activities of large energy companies play a key role in Germany's energy transformation, and the shape of the country's energy policy is mainly influenced by the so-called "Big Four" energy companies (E.ON SE, RWE AG, EnBW Energie Baden-Württemberg AG, and Vattenfall Europe AG), which control nearly 90% of the German electricity market. Those companies aside, companies from the renewable energy sector have developed into significant players over the last decade (Sühlsen, Hisschemöller, 2014, pp. 316–317).

In 2007, during Germany's EU presidency, intensive work began on expanding RES in the Union, increasing energy efficiency in the context of climate protection policy, developing research into modern low-carbon technologies and developing the EU's position on the goal of reducing greenhouse gas emissions after 2012. German lobbying for renewables has been, and continues to be, multi-level, and not limited to the national nor EU levels. The biggest initiator of the favourable changes to the climate and energy package for Germany was a national organisation named Bundesverband Erneuerbare Energie (BEE), which brings together all interested organisations from the renewable technology sector in Germany[1]. BEE's lobbying strategy was aimed at decision-makers in the country, but at the same time the organisation worked to promote the interests of the industry in EU institutions. The national strategy was based on lobbying two ministries; the Ministry of Environment, and the Ministry of Economy. In addition, BEE also used two indirect lobbying channels, firstly by putting pressure on the Government through the identification of so-called "renewable, technology-friendly" politicians, especially within the two parties in power at the time (SPD and CDU/CSU), and, secondly, by creating an informal alliance with environmental organisations, including Greenpeace and Friends of the Earth, that actively lobbied government members on climate policy. The aim of the

[1] The BBE was founded in 1991 to improve conditions for the RES industry in Germany.

above activities was to gain the widest possible group of support, including that of the public's. An important step in the lobbying strategy for the adoption of the climate and energy package was an extensive mass media campaign that presented the positive impact of the energy transition on the environment and the German economy. Thanks to the use of such a broad spectrum of lobbying tools, German politicians, realising the consequences of not supporting the proposed RES legal changes (i.e., the loss of the public's support), swiftly passed those changes into law in the Bundestag.

At the European level, BEE participated in meetings and exchanged information with two associations, namely, the European Renewable Energy Council (EREC), and the European Renewable Energies Federation (EREF) along with other European associations. It is noteworthy that all renewable energy organisations lobbied those responsible for the drafting of the Renewable Energy Directive (the so-called 'First Climate and Energy Package'). German MEPs who could influence their colleagues in Parliament were of particular interest to BEE (Ydersbond, 2012, pp. 42–43).

One key conclusion emerges from the above analysis; the pooling of resources, especially of organisations and countries with an interest in renewable energy, allowed for a significant expansion of information and political contacts. This, in turn, allowed for more intensive lobbying and expanded lobbying channels (Marshall, 2010, p. 572), which meant that decision-makers in Germany, as well as at EU level, were able to encounter a unified and coordinated lobbying strategy.

One of the key elements of the German RES energy lobbying strategy was to push through the 1st climate and energy package.[2] Negotiations on the package were very difficult, as the vital interests of practically all spheres of the economy were at stake. They were defended by some Member States, including Italy, Poland, Hungary, Bulgaria, Latvia, Lithuania, Romania, and Slovakia. An encompassing variety actors, ranging from organisations representing industrial interests to NGOs, conducted lobbying campaigns of varying intensity, especially during the first stage of the legislative process, in favour of their demands being

[2] The 1st climate and energy package, adopted in December 2008, is a set of binding laws designed to ensure that climate change targets are met, as well as to increase the security of energy supply. The package consists of three pieces of legislation based on the following assumptions: reducing greenhouse gas emissions by 20% in 2020 compared to 1990 emission levels, increasing the share of renewable energy to 20% in 2020 in the EU energy balance, and increasing energy efficiency by 20% by 2020; https://climate.ec.europa.eu/eu-action/climate-strategies-targets/2020-climate-energy-package (Access 19.01.2024).

included. Poland, together with the above-mentioned six countries, demanded that Western countries bear a greater financial burden related to the implementation of the package, due to the huge disproportion in the energy mix between the old and new EU members, which was dominated by coal-fired power generation. An important factor that influenced the adoption of the package in that form and at that time was the political calendar. The legislative process of the package had to be completed by the end of 2008, as the world climate summit in Poznań, where European leaders wanted to show off the community's achievements in climate protection, was scheduled for that period. In addition, the European Commission and the European Parliament wanted to play a special role ahead of the forthcoming EP elections in June 2009 and the appointment of a new Commission. The Parliament therefore acted as an intermediary in the negotiations between the various parties. The Commission, on the other hand, became a leader creating EU policy independently of the Member States. However, it needed the support of the Member States for its decisions, and was therefore willing to work with representatives from different backgrounds. A special role should be attributed to the parliamentary rapporteurs, who prepared various reports on new regulations; they urged various stakeholders to adopt the package.

Mention should also be made of the unusual procedure by which the document was passed. European leaders decided that all decisions on the package would be taken at the level of the European Council, i.e., by the heads of government and the heads of state of the Member States, and not, as before, at the level of the Council of Ministers, in this case for the environment. This was a deliberate move, as it was feared that the package would be blocked during the vote by a possible coalition of less developed countries. In addition, there was also a change in the order of work on the package in the various Institutions. In this way, the Council issued its decision on the adoption of the package before Parliament had agreed on it. In the normal procedure it is the other way around; it is the Parliament that adopts its position before the Council's decision in the expectation that it may influence the outcome of the vote. Many analysts believe that the use of such a formula did not give MEPs a choice, forcing them to approve the decision on the package reached by the Council. Thus, after intensive diplomatic consultations firstly held with the German government, then with the French government during their EU presidency, it came to pass that all Member States accepted the final version of the package (Kurczewska, 2011, pp. 346–349).

In 2014, Berlin stepped up energy diplomacy efforts to continue the EU's existing climate and energy policy beyond 2020. The Germans began

lobbying for the establishment of higher targets than in the first climate and energy package of 2007. In order to achieve their target, they won over representatives from the UK, France, Italy, Spain, and the Netherlands, who all signed a letter to the European Commission expressing their support for setting a reduction in greenhouse gas emissions of at least 40% by 2030 compared to 1990 emission levels. The so-called "second energy package"[3] adopted by the EU reinforced previous trends of increasing CO_2 emission reductions and reducing emission allowances. This improves the attractiveness of other fuels such as gas and uranium used in nuclear power plants. In turn, the administrative increase in the volume of green energy has boosted demand for, *inter alia*, gas turbines and photovoltaic panels (Turowski, 2014, p. 85).

The continuation of the EU's green energy development policy beyond 2020 was expected to increase the chances of Germany maintaining national support for RES investments. While the energy transition in Germany is supported by the majority of the public, political parties, and business representatives, the dispute is about the distribution of the costs of this project and its pace. The green technology sector stands to benefit enormously from the establishment of legislation to increase the share of RES in the EU's energy mix. Therefore, it was in the interest of German businesses specialising in products and services related to clean energy production to provide political support for that sector. Furthermore, the industry related to the production of environmental services and goods is seen in Germany as an opportunity for the German economy to break out and become stronger in that sector in the global market. Indeed, the wind, photovoltaic, and biomass industries are already thriving in Germany today. Government figures show that in 2019, Germany reached a 13.9% share of global trade in goods from the environmental sector (Die Umweltwirtschaft in Deutschland Produktion, 2021, p. 63).

Since the beginning, Germany has tried not to implement its regulatory approach to climate and energy policy alone, but also to transpose it into the legislation of other European countries through the European level. German environmental companies, especially those focused on exporting their products, urged the federal government to take action to bring European environmental standards in line with Germany's level of regulation to prevent a decline in their competitiveness (Saerbeck, Jörgens, 2016, p. 307). Thanks to the above-mentioned activities having been undertaken in the

[3] The 2nd Climate and Energy Package includes two targets: to reduce greenhouse gas emissions by 40% as compared to 1990 levels by 2030, and to increase energy production from renewable sources to 27% of total energy consumed by 2030. European Council Conclusions 23–24 October 2014, EUCO 169/14, p. 1.5.

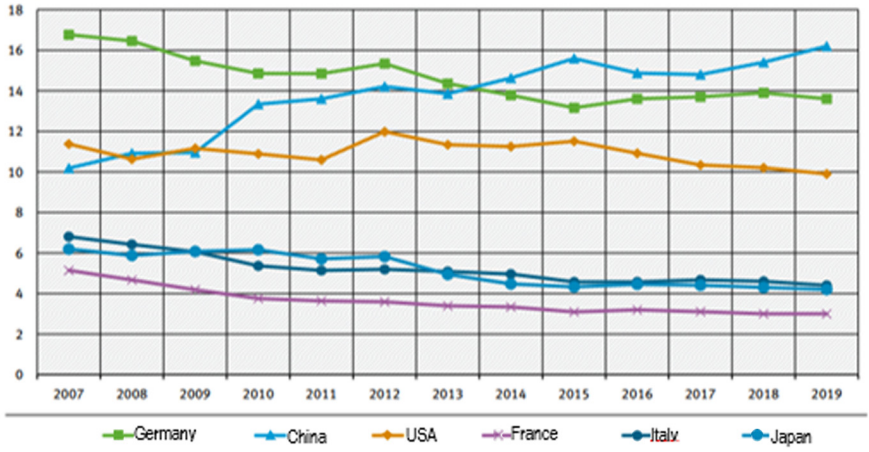

Figure 1. World Trade Share of the Largest Exporters of Environmental Products 2007–2019 (%)

Source: Die Umweltwirtschaft in Deutschland Produktion, Umsatz und Außenhandel Aktualisierte Ausgabe 2021, p. 63.

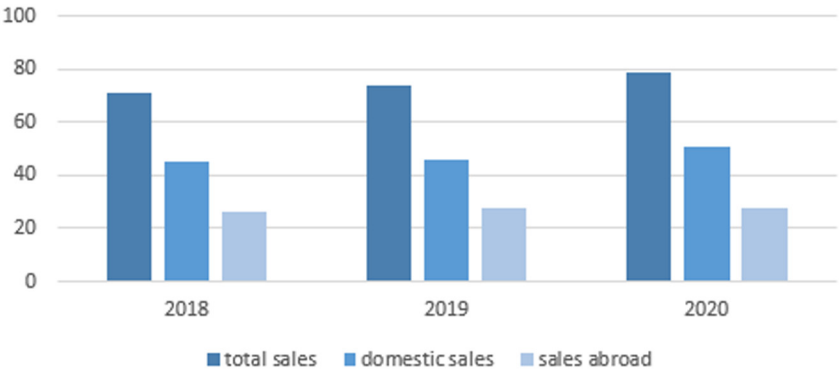

Figure 2. Domestic and Foreign Sales of German Ecological Goods and Services in Billions of Euros

Source: Umsatz und Beschäftigte für den Umweltschutz 2020, Statistisches Bundesamt 2022, p. 6.

EU for years, German companies already have an established position in the environmental protection market. They generate a large part of their sales from abroad, and, on the domestic market, they often compete with international corporations. It is worth emphasising that the development opportunities of the German environmental protection industry will

continue to be strongly dependent on exports. In 2020, Germany continued to be the second largest exporter of environmental goods (exports stood at 28 billion euros). The share of sales of environmental protection products in total sales in Germany currently stands at 29.3%. German companies have so far sold goods worth a total of 78.9 billion euros that could have been used for environmental protection purposes (Umsatz und Beschäftigte für den Umweltschutz 2020, 2022, pp. 8, 10) (Figure 2). Increased demand for environmental products in the global market is causing employment in this sector to grow (2.9 million employees in Germany as at 2019) (umweltbundesamt.de, 2023).

In 2020, German companies held between 7% and 17% of the global environmental technology markets, including the markets for the circular economy and sustainable mobility (17% each), with the least being in the sustainable agriculture and forestry sector (7%) (GreenTech made in Germany, 2021, p. 76).

German energy diplomacy is using a number of tools to spread the idea of the energy transition around the world. One example of this was the inclusion of the areas of energy and climate protection in the priorities of the German G7 presidency in 2015. Germany, for several years now, has been concluding bilateral energy partnership agreements with countries including African countries (Morocco, Tunisia, Algeria, and Nigeria) as well as India, China, Turkey, and Brazil where there is a high demand for the import of RES technologies. An example of important export support instruments is the specialised agencies set up by the German Ministry of Economic Affairs which help German companies enter foreign markets (Die Umweltwirtschaft in Deutschland Entwicklung, Struktur und internationale Wettbewerbsfähigkeit, 2020, pp. 9–10).

In recent years, global zero-emission activities have been significantly intensified. Many countries have adopted economic packages with a high percentage of funds for environmental protection, which are aimed at the economic development of companies in the sector and which also aim at competing for the environmental technologies market. Germany can only maintain its leading role in this area if it plays a pioneering role in environmental protection and systematically promotes innovative technologies (umweltbundesamt.de, 2023).

Conclusions

Lobbying at the EU level is becoming a phenomenon that is increasingly accepted and recognised as an essential part of the functioning of the EU and Member States. Energy lobbying is multi-dimensional and multi-

faceted. From the point of view of the European energy puzzle, bigger players can do more. The ongoing energy revolution generates regulations that are unfavourable to coal and other fossil-fuel consumers.

There are two reasons the environment and climate protection are important areas on Germany's political agenda. On the one hand, internal political factors, such as the relatively high level of ecological awareness of society and the unique size and strategic activities of the German environmental movement, have meant that Germany has been working on its image as a European and global forerunner in environmental protection since the 1980s. On the other hand, economic and political globalisation favours a stronger orientation of Germany's foreign policy towards environmental protection. Currently, Germany is unable to sustain further independent national efforts in the field of climate and energy policy in the long term, because neither society nor producers will be willing to bear the huge costs of energy transformation, while in other EU countries, the industry will be much competitive due to smaller environmental protection burdens. Germany's interest in sharpening its foreign policy profile is, therefore, linked to the need to better support its national environmental policy with international regulations.

In conclusion, the Europeanisation of the German energy transition is a prerequisite for Germany for the success of this strategy at home. By 2014, more than two-thirds of EU Member States, including France and Great Britain, with programs promoting renewable energy based on a more market approach, had introduced a national feed-in tariff system for renewable energy, modeled on Germany's example (Sühlsen, Hisschemöller, 2014, p. 273). The popularisation of *Energiewende* both in Europe and globally has allowed for an increase in the production of the technology, which has contributed to lowering the costs of its production. Furthermore, these measures have created new jobs in the sector, which has kick-started the German economy. So far, the German energy transition has become a widely recognised process worldwide.

Forcing a faster pace of decarbonisation of European economies, imposing a mandatory share of renewable energy in the energy mix, and/or reducing CO_2 emission limits for individual EU Member States weakens their economic potential and increases the role of the German economy in Europe.

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Cross-Fertilisation Between EU Green Policies and Instruments Applied by Public Management: Dilemmas and Opportunities

Abstract

This article aims to contribute to discussions held by the academic community that has extensively researched the EU's green transition. The author underlines that a transdisciplinary approach involving legal, economic, and political tools provide a comprehensive cross-fertilisation methodology. The article observes implications related to EU green policies and public management instruments from two perspectives: the broadening of green transition to socio economic dimensions; and the role of government intervention in economic and green business development to illustrate examples of relevant practices in the EU. The author argues that such a methodological approach can help one to assess the actions and measures related to the green economic and business development trends that require societal support as well as the improvement of economic efficiency at the EU and national level. This contribution offers insights into the concept of green economic transitions and innovation as well as the impact of public services focused on societal change. The article concludes that a decision-making process that is based on a cross-fertilisation approach allows the implementation of green policies in national economies in the most effective manner and, in turn, provides welfare effects due to the enhancement of public administration services in their coordinated actions with entrepreneurial activities and business investments. On a wider regional scale, government/private business green partnership represents a tool that inevitably helps increase the environmental and green competitiveness of the EU and its Member States.

Keywords: Green Policies, Public Management, Cross-Fertilisation, Green Transformation

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Introduction

In contemporary times, multiple crises crossing geo-political security, along with the economic, social, public health, and environmental realms, have renewed the incentives for harmonised policy responses in the EU to support societal transformations for sustainability. In the context of geopolitical crises and economic turmoil, strategies related to decarbonising the EU economy have been debated in talks on the European Green Deal (EGD), a so-called "green growth" strategy. Additionally, the crises of skyrocketing energy prices and insecurity of supply due to the Russian/Ukrainian war have put the energy transition at the top of the EU's priorities (RePowerEU, 2022). Considering the varying capacities of the EU Member States to respond to the short-term and longer-term economic and environmental difficulties, concerns towards the transition of green governance, green entrepreneurship, and innovation as well as the aforementioned government/business partnership are of prime importance.

The European Commission proposes a transformation of the EU economy and society in order to meet climate ambitions. In 2021, the European Commission adopted a set of proposals to make the EU's climate, energy, transport, and taxation policies fit for reducing net greenhouse gas emissions by at least 55% by 2030 as compared to 1990 levels. Achieving such emission reductions in the next decade is crucial to Europe becoming the world's first climate-neutral continent by 2050 and to making the EGD a reality (European Green Deal, 2021). However, a "green growth" debate is taking place in a generalised setting. According to Frans Timmermans, the EU's climate chief, green development "is going to be a long and difficult journey, and the COP27 deal still needs a tremendous amount of work". The achievement of EU Green Policy objectives will be determined by a combination of dynamics and synergies between public management strategies and instruments that are capable of being effective in implementing public policy with adequate management. Overall, the transition process to green growth is assumed to be largely technocratic and has a strong impact on the decision-making process and any foreseen results achieved by governmental and private business policies. EU institutions have been instrumental in crafting policy packages for the EGD's implementation, which resulted, as was stressed in a European Parliament study, in a change in thinking: "With this shift in thinking must come a shift in how we govern societies and implement solutions to these global challenges" (European Parliament, 2019, p. 12). Following this notion, the author supports the idea of applying a transdisciplinary

approach that helps the process of accomplishing desired changes in green transitions by involving legal, economic, and political tools that compose a comprehensive cross-fertilisation methodology. Furthermore, appropriate governance is seen as a precondition for achieving goals in creating and maintaining effective, competitive, and attractive instruments to support the implementation of the above-mentioned societal changes.

This article will examine the opportunities and challenges in the collaborative engagement between the respective actors and communities of practice in facilitation of the cross-fertilisation of policies and instruments to reach the ambitions of the EGD. The cross-fertilisation approach allows for the implementation of green policies in national economies in the most effective manner and, in turn, provides social welfare effects due to the resultant enhancement in public administration services in their coordinated actions with business investments and entrepreneurial activities. The cross-fertilisation approach on a large scale applies multi-and-inter-disciplinary knowledge and new technologies. Moreover, cross-fertilisation refers to the interdisciplinary combinations of different knowledge and technologies, generating extensive technological opportunities in terms of new-product performance or innovative entrepreneurial performance, or a new decision-making approach in governmental functionality. The most frequently expressed descriptions of the multi-and-inter-disciplinary are the following: the use and combination of different knowledge and skills; the application of innovative methods in problem-solving; a problem-oriented approach, etc.; and, additionally, two main dimensions can be identified in the forms of the multi-disciplinary and the inter-disciplinarity (Muravska, Ozolina, 2011, p. 67). Interdisciplinarity could become a new parameter of competition between national economies in approaching green growth. In addition, on a wider regional scale, the implementation of green policies and the orientation of government towards efficient functionality along with government/private partnership represents a tool that inevitably helps increase the environmental competitiveness of the EU and its Member States.

Green Policies Orientation and the Concept of Environmentally Responsible Governmental and Business Strategies

Increasingly, environmental issues are causing serious threats to ecology, to human beings, and to economic growth. Nowadays, governments and businesses focus on more sustainable production and

integrating sustainable processes at the core of their business activities. Studies suggest that Green Policy orientation has emerged as a core concept in the field of entrepreneurship (Lumpkin, Pidduck, 2021, p. 20), and resulted from cooperation between businesses and governments. In this context, in attaining environmental, economic, and social performance of businesses and business and government partnership, Green Policy orientation and/or sustainable economic performance are considered as sustainable competitive advantages (Afum et al., 2021, p. 170).

For many businesses entities, to enhance their capabilities and increase competitiveness is to perform towards the initiation of green ventures and the improvement of business and sustainability performance. The transition to a green economy is a dominant part of the EU`s economic development, and the European Green Deal that strives to transform the EU into a climate neutral, resource efficient economy by 2050 (European Commission, 2019) has placed green economy in the focus of attention of all national governments of the EU. The implementation of the EGD will provide new opportunities for innovation, investment, and jobs.

Green entrepreneurs and green businesses are recognised as vital push factors to foster transitions to a green economy. Green entrepreneurs, in implementing their business strategies, aim at reconciling tensions between business activities and environmental objectives in a contrast to entrepreneurs operating under the "business as usual" umbrella (O'Neill, Gibbs, 2016, p. 1730). An essential starting point governing green entrepreneurs is the so-called 'green growth' paradigm. In research studies, green growth is primarily associated with climate stabilisation as an accelerator for innovation, investment, and economic growth and is related to political activities on national and regional levels (Buch-Hansen, Carstensen, 2021, p. 310). The concept of green innovation was first proposed already in 1996 (Fussler, James, 1996, p. 150) to denote improvements and innovations in product processes that enhance the environmental performance of firms. In addition to this, Borghesi et al. (2015, p. 675) refer to green innovation as processes of the use of innovative resources that may reduce the cost of production and improve a company's performance. In studies that are relevant to green innovations (Hadjimanolis, 2020, p. 65), the importance of innovation is attached to the economic, environmental, and social performance of a company, which, in turn, could enhance the strength and competitiveness of business entities and organisations.

Entrepreneurship plays an important role in delivering more radical green innovations that challenge existing firms and business models.

However, the cornerstone of the process is a well-organised government that applies environmentally-responsible business strategies. Green entrepreneurship is a system that reflects a company's strategic actions to accelerate green innovation and improve sustainable business performance (i.e., that of the environmental, economic, and social). Green entrepreneurship leads to green innovation, which sequent to three variables, which include "green social performance", "green economic performance", and "green environmental performance", as illustrated in the scheme below.

Scheme 1. Green Policies' System

Source: the author's own construction based on a literature review.

It is widely acknowledged that green policies are enhancing and contributing to the sustainability performance of the demand and supply sides. As a result, there is a need to pay close attention to development of internal environments within national economies and external environments determined by the implementation of Sustainable Development Goals (SDGs) internationally.

Green policies need the creation of the relevant economic and business environment and green growth, via good governance, fair competition, and an improvement of access to finance, which remains one of a major constraints for the facilitation of the transition to green growth and new, green businesses. These targets can alleviate problems in adopting green innovations. Furthermore, green policies can enable

businesses to participate in cooperation with a government in knowledge networks, and strengthen skills that can lead to innovation that are fundamental in the green transition. A framework for environmentally-responsible business and entrepreneurial strategies should be developed and implemented based on the cross-fertilisation methodological approach.

Green Policy Responses and Implications in Latvia as an EU Member State

In 2021, the European Union unveiled the most ambitious plan to date to combat climate change and issued a Regulation on establishing the European Climate Law (Regulation (EU) 2021/1119). The planned measures aim to transform the economic life of the EU and its Member States so that their daily lives become more environmentally friendly in the next decade. The commitment is to reduce greenhouse gas emissions by 55% over the next 10 years and to become fully climate neutral by 2050. Achieving the 2030 target of a 55% reduction in environmentally harmful emissions will require 350 billion euros in additional investment each year, so more capital needs to be raised for green economic activity. Latvia (OECD, 2019) is on a good pathway towards reaching many of the SDGs and the country's economy has managed to decouple several environmental pressures from its sustained economic growth, although challenges remain. It has significant opportunities for accelerating the transition towards a low-carbon, greener, more inclusive economy, especially by investing in energy efficiency, renewables, sustainable forestry, and sound waste and material management. To seize these opportunities, the country should make better use of economic instruments, remove potentially perverse incentives, and improve the quality of its environment-related infrastructure and services. A well-developed, comprehensive framework for sustainable development and, moreover, for environmentally responsible business and entrepreneurial strategies applying the cross-fertilisation methodological approach will be a significant move in the government/business green partnership. The framework is defined by the law and adopts the principle of vertical or hierarchical and horizontal co-ordination of planning documents. The current Latvian environmental policy guidelines from 2021 to 2027 envisages the strategic objectives, priorities, and measures for sustainable, balanced development of the Latvian national economy for the next seven-year planning period, as defined in box 1 below.

Box 1. Strategic Objectives, Priorities, and Measures for Sustainable and Balanced Development

Achieving the 2030 greenhouse gas reduction target and achieve climate neutrality by 2050.

- Improving adaptability, strengthening resilience, and reducing vulnerability to climate change.
- Making progress towards a renewable growth model by decoupling economic growth economic growth from resource use and environmental depletion and acceleration the transition to a circular economy.
- Aiming for zero pollution in an environment, i.e., the removal of of toxic substances in the air, water, and soil, thus also protecting the health and well-being of Europeans.
- Protecting, preserving, and restoring biodiversity and increasing natural capital, in particular the air, water, soil, along with forest, freshwater, wetland, and marine ecosystems.
- Promoting environmental sustainability and reducing environmental and climate pressures related to production and consumption in general in the fields of energy, industrial development, buildings and infrastructure, mobility, and food systems.

Source: Saiema, Republic of Latvia, 2020, p. 49.

Another meaningful document is the Sustainable Development Strategy of Latvia until 2030 (Saiema, Republic of Latvia, 2010, p. 10). That document includes long-term priorities, goals, and action lines, and is broadly consistent with the SDGs. It is based on a so-called "capitals" approach to sustainable development, which primarily focuses on wealth creation within the planet's ecological limits, with an emphasis on the correlation between environmental and economic systems. A capitals approach enables organisations to understand how their success is directly or indirectly underpinned by natural capital, social capital, and human capital, thus empowering them to make decisions that offer the greatest value across all the aforementioned capitals. Latvia, in its goals for 2030, has a higher political standing than the previous sustainable development strategy and is aiming at developing flourishing communities, strong and resilient social institutions, prosperous natural ecosystems, and a stable-climate emphasis of economic and societal prosperity.

Broad public participation helped the strategy gain the legitimacy of a social contract and the broad support needed for its implementation. All SDGs are being integrated into the planning system and decision-making at all levels in Latvia. The progress of the system in achieving SDGs is being observed by national and international experts. According to the experts, the country needs to consider providing and ensuring

a link between the economic, environmental, and social opportunities of moving towards a circular economy, enhancing innovation and eco-efficiency, reducing inequality, and improving access to education and healthcare. Several areas for action have been identified and suggested, based on the cross-fertilisation approach. The following potential achievements in the areas of labour market performance are: increased productivity including more efficient use of resources and larger investment in research and innovation; improvements in healthcare and social welfare systems; service provision to low-density areas; including road infrastructure; public transport and housing as well as adapting to climate change; reducing GHG (greenhouse gases) emission; and promoting a wider use of renewable energy sources (Saiema, the Republic of Latvia, 2018).

Sustaining growth in the long term will also require more investment in education (OECD, 2019), and innovation to further diversify exports towards products and services with higher technological content and value added.

The EU's Green Industrial Policy and the Maturity of Latvia in the Green Transition

Green economy and green business are increasingly accepted as key drivers in tackling climate change, pollution, and health-based issues to improve life for people. The process of shifting economies "from brown to green" is one of the most significant socio-economic transformations in modern times. Green transformation can be defined as combining economic growth with caring about the environment in order to guarantee a high quality of life for present and future generations at a level which is attainable due to civilisational development, as well as to the effective and rational use of available resources (Cheba et al., 2022, p. 108601). Green growth has the potential to stimulate transformative changes in the direction of sustainable development, but what is more important is the proactive role of governments in restructuring their economies and forming a framework of instruments and measures that impact the activities of business entities in their intentions to become, in the first instance, ecologically sustainable. Such processes concern green transformation and could be considered as part of the concept of the 4th industrial revolution, relying on significant technological advances, thus becoming socially acceptable (Bruegel, 2020, p. 4). Green transformation is fundamentally driven by introducing renewable energy resources as a new energy regime (Siekmann, Schlor, Venghaus, 2023). One of the

strategies to reach targets of green transformation is a green industrial policy at the EU-and-EU-Member-State levels.

As a new initiative, the Green Deal Industrial Plan was introduced by the European Commission in 2023 [COM(2023) 161, COM(2023) 160] with the aim to ensure the transition to green growth and steady, sustainable development. Additionally, the Green Deal Industrial Plan intends to enhance the competitiveness of the bloc's industry on the path to net-zero greenhouse gas emissions. Moreover, there is a strong demand for investment in the green transition. As a result, a new balance between sustainability requirements and strategic economic interests, especially in the areas of trade and investment, is essential. Strategic economic interests are supposed to help to avoid an international disadvantage of EU industry and the risk of a decline in foreign directs investments (FDI) in Europe. As statistics show, in 2022, FDI rose only 1% compared with 2021, and remains 7% lower than in 2019, just before the onset of the COVID-19 pandemic (EY, 2023, p. 6; European Court of Auditors, 2023, p. 8). The shift towards an increase in competitiveness of the EU economy and growth in investments could be achieved as a result of an implementation of the EU industrial strategy and therefore strengthen the bloc's industry. These measures compliment the Green Deal.

As is common knowledge, the EU's approach in industrial policy has an eclectic and cross-cutting nature as well as combining interventionist and market-based policies to secure a framework of favourable conditions to ensure industrial competitiveness at the level of the EU as well as the level of the Member States. The industrial policy is implemented together with other EU policies such as those of regional and cohesion policies and trade policy, thereby fostering better exploitation of the industrial potential of policies of innovation, research, and technological development (Article 173, TFEU, 2012). Green industrial policy follows this same approach of state-driven structural change while also promoting broader social and environmental goals.

Governments can operationalise the structural change necessary for economic growth, competitiveness, and new jobs. A shift from traditional types of industrial policies to an industrial policy that embraces environmental and energy policies could accelerate structural transformation and enhance productivity of national economies.

Overall, green industrial policy initiatives are undertaken at regional, national, and EU levels. These initiatives are, however, not necessarily coordinated, which can even lead to conflicting relationships due to differences in policies and their implementation in diverse EU countries. The central issue is the existing fragmentations in the EU's Single Market

which prevent innovative green technologies from being fully competitive internationally. One of the ways to increase the competitiveness of EU businesses is to strengthen regulation and standardisation, which would reinforce the EU as a leader in common environmental standard-settings as a part of the regulation as one of the essentials of the EU Single Market. It is important to stress that national barriers towards the green transformation of the entire bloc should be diminished, and energy and transport infrastructure should be widened.

The green industrial policy's framework in Latvia, including its tasks and targets, represents an example of green industrial policy implementation at the level of an EU Member State. Latvia has a small, open economy with a small industrial base, but a large agriculture and forestry sector. Until the outbreak of the COVID-19 pandemic, Latvia's economic growth remained stable, exceeding the EU average. Nevertheless, according to the European Parliamentary Research Service (Saulnier, 2022), uncertainty remains elevated. The OECD noted that that productivity growth went into decline following the 2008 global crisis, and that another risk is the quickly declining size of the Latvian population due to ageing and emigration. The OECD also stresses that policies to enhance digital transformation along with green and digital transition are of prime importance to address the green industrial policy (OECD, 2021). Furthermore, experts estimated that rapidly increasing prices of natural gas and other energy resources in 2022 could continue to rise in 2023 and 2024. According to the Central Statistical Bureau of Latvia (CSB), in 2022, electricity prices increased almost twofold compared to the price of electricity in 2021 with the price of natural gas for consumers increasing almost 2.5 times (CSB, 2022). The above considerations might have a negative impact in the years to come on the timely implementation of the green transition goals. The Latvian economy needs a reorganisation of the country's industrial system while applying a diverse, cross-sector approach.

The competitive advantages of the Latvian economy mainly rely on technological factors and improvements in production efficiency and innovations. However, to a lesser extent, the advantages lie in low labour and resource prices. Reframing green investments should be complemented by measures that improve skills and facilitate the reallocation of labour and capital. The labour market itself has been seriously affected by the negative demographic situation in the country, leaving a mark on both unemployment and the dynamics of the number of employees. Furthermore, working-age people will need to cope with an increasing old-age dependency problem, as well as structural and technological

changes in economies and businesses expected in the time of the 4th industrial revolution. Furthermore, it becomes increasingly difficult for the unemployed to adapt to new labour-market needs. Risks that some of the unemployed may have difficulty finding a job matching their skills in the future remain high. According to experts from government institutions (Ministry of Economy of Latvia, 2020), the supply of adequately skilled workers could significantly decrease in the future, and the importance of practice-integrated education in higher educational institutions will continue to surge (Stacenko, Muravska, Briķena, 2023, p. 192). Moreover, to increase the maturity of green economy and business in the country, a high degree of interaction between the public and private sectors is required. In this respect, Latvia's Ministry of Economy, in cooperation with all line ministries, set out tasks and guidelines for the green industrial policy's development, with emphasis on stimulating investment for business development and strengthening the comparative advantages of the national economy towards green transition (Cabinet of Ministers of the Republic of Latvia, 2021). The guidelines recognise the context of a rapidly changing labour market, as it does the need for employees to constantly acquire new knowledge *and* the need for employers to invest in technological development and the education of their employees. The industrial policy's instruments are those of enterprise policy, with the main task to set up an environment and conditions in which entrepreneurs and business entities can take initiatives and implement their innovative activities. As a result of the government/business green partnership, the strengths and weaknesses of the national economy in general and national industries in particular are analysed and corrected according to the changing internal and external environment and may trigger cross-sectoral or sectoral policy initiatives.

Conclusions

With respect to governance and private businesses' green partnership's mechanisms for mainstreaming the EU's green policies, this article captures and assesses different measures taken by the EU and the government of Latvia. The achievement of the EU's green policies is determined by a combination of dynamics and synergies between public management strategies and instruments that are capable of implementing effective public policy in an adequate partnership with private business and entrepreneurship.

The article suggested a cross-fertilisation approach be applied in the decision-making process as it allows for the implementation of green

policies in national economies in the most effective manner and helps to coordinate actions with business investments and entrepreneurial activities.

On a wider regional scale, such a government-and-private-business green partnership represents a tool that will inevitably help to increase the environmental competitiveness of the EU and its Member States. The broad EU green-industrial-policy framework should become embedded in Member State national reform programmes. Indeed, government and business partnerships as regards green-growth implementation can ensure access to skills, knowledge, and green investments. To avoid risks in such partnerships, there is a need to have long-term planning at the EU and national levels with a clear set of targets and measures to ensure the green transition in the EU its Member States. EU Industrial Policy and national industrial policies require coordinated actions in certain green technologies, regulation, and standardisation, which help to avoid fragmentation in the Single Market and develop a solid regulatory framework focused on ensuring competition and access to the Single Market, with common or mutually-recognised environmental standards. The example of the cross-fertilisation approach in the decision-making process in Latvia shows that that particular EU Member State follows the main EU trends in green transition. Likewise, the instruments applied in internal economic and business environments are adjusted to the level of economic and business development and specific problems in different sectors of the national economy. The EU's actions in green industrial policy help the Latvian government to develop action plans that include green industrial policy recommendations.

As a result of the government/business green partnership, the strengths of the national economy in general and national industries, and their weaknesses in particular, should be assessed and further corrected in relation to changes in the internal and external environment and, as a result, produce efficient cross-sectoral and sectoral policy initiatives.

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Behavioural Factors Affecting Corporate Environmental Sustainability. Evidence From a Field Study Among Polish SMEs and Implications for the EU Environmental Policies

Abstract

Considering climate change problems that European countries are currently struggling with, the aim of this paper is to examine the behavioural factors that affect corporate environmental sustainability (CES). Based on the relevant academic literature and reports behavioural barriers and enablers for corporate environmental sustainability are identified using the ABCD (attention-belief formation-choice-determination) framework. Selected issues are further investigated in a survey among a representative sample of 350 small and medium-sized Polish enterprises and discussed in a broader European context. Our research reveals what goals and motivations Polish SMEs employ to make green investments, how they asses their environmental efforts compared with peer companies, what sources of environmental information they consider as trustworthy, as well as what factors they believe most strengthen the firm's determination for sustainable development. The contribution of this paper lies in shedding light on the starting dispositions of entrepreneurs as targets of public policies promoting environmental goals in the EU. Such insights are instrumental in designing and implementing effective policy interventions.

Keywords: Corporate Environmental Sustainability, Corporate Environmental Responsibility, Behavioural Insights, Behavioural Public Policy, European Environmental Policy

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Introduction

According to Special Eurobarometer on "Future of Europe" (European Union, 2021, p. 81) almost every second European (49%) considers climate change and environmental issues as the main global challenge for the future of the EU. Many of these issues are attributable to human activity – behaviours of individuals, households, or businesses. Dealing with them effectively requires a departure from designing policy instruments on the basis of how people should behave and an assumption that this behaviour is rational. We have to delve deeper into what drives or hampers specific behaviours relevant from the policy point of view as they systematically deviate from what be considered desirable or correct in terms of formal logic. Findings from behavioural science research, i.e. behavioural insights (BI), can improve the effectiveness of public policy as they help policy makers to obtain a deeper understanding of how people think, choose, act and interact as they do and thereby improve the policy goals attainment.

While applying behavioural insights to encourage sustainable behaviour of citizens, consumers or end-users is fairly widespread, much less research has been done on their application in a corporate context (Stieler, Henike, 2022; Rauscher, Zielke, 2019). Yet, businesses can make a huge difference with regard to the natural environment preservation, in particular can play a key role in the energy transition and combating climate change.

The aim of this paper is to identify behavioural factors that affect corporate environmental sustainability (CES) that can help to increase effectiveness of public policies in the EU promoting environmental goals. Corporate sustainability (CS) refers to fundamental assumptions on how a firm operates. It can be defined as the application of sustainable development goals (SDGs) at the micro level, i.e. at the firm level (de Oliveira et al., 2023). Therefore, the concept is used in relation to: business models (Karuppiah et al., 2023), organizational strategy (Long, 2020), or organizational culture and practices (Assoratgoon, Kantabutra, 2023). It entails the reconceptualization of the underlying logic behind the value creation, capture and delivery aiming at prosperity in a dynamic world (Fertilo, Faraci, 2022). It represents a shift from a narrow focus on the firm's shareholders' economic gains towards broader impacts of a firm's operations (Dyllick, Hockerts, 2002), in a short and long term perspective (Lozano et al., 2015). Adding the term "environmental" to corporate sustainability (CES) denotes the stress on the integration of economic and environmental goals of a firm, with the special focus on how to decrease the impact of business operations on natural environment.

The paper's line of argument unfolds in two main steps. First, based on the relevant academic literature and behavioural insights reports – behavioural barriers and enablers for corporate environmental sustainability are identified using the ABCD (attention – belief formation – choice – determination) framework. Then, selected issues are further investigated in a survey among a representative sample of 350 small and medium-sized Polish enterprises.

The remainder of the paper is organised as follows. Section 2 contains literature review and outlines the conceptual framework, i.e. the ABCD framework, which has been adopted to the corporate context to guide the search for behavioural barriers and drivers for CES. Section 3 describes the sample and data collection method used in the field study. Section 4 presents research findings concerning the four behavioural aspects of the ABCD framework: attention, belief formation, choice and determination. The article ends with conclusions and practical implications for public policy makers on how businesses in the EU can be encouraged to change their behaviour in order to reduce their impact on environment, as well as suggestions for future research in this area.

Identifying Behavioural Factors Affecting Corporate Environmental Sustainability Through the Prism of ABCD Framework

Our decisions and behaviour deviate from those implied in classical economics because of: (1) the limited ability to attend to all aspects of our life (Davenport, Beck, 2001), (2) the influence of the context in which decisions are taken (Spektor et al., 2021), (3) the difficulty to make sense of the complex world around us (Schwartz, 2004), as well as (4) our bounded willpower to stick with our decisions over time (Baumeister et al., 2018). These are the four issues that tend to cause behavioural biases and if they are not dealt with properly can decrease the effectiveness of policy tools. They correspond to the four behavioural mechanisms that have been incorporated in the ABCD framework, namely: attention, belief formation, choice and determination. The ABCD framework, presented in Table 1, has been developed by the OECD and is meant to assist policy-makers in analysing and diagnosing behavioural problems (OECD, 2019). It assumes that behaviour can be analysed and classified according to these domains. In our research this generic framework has been adopted to guide the search for behavioural barriers and drivers for CES in relevant academic literature and behavioural insights (BI) reports.

Table 1. The ABCD Framework

Behavioural Domains	Behavioural Biases
ATTENTION	Attention is a scare resource, easily distracted, quickly overwhelmed and subject to switching costs.
BELIEF FORMATION	People do not carefully search for and scrutinise all relevant information, seek new information and update their beliefs accordingly.
CHOICE	People are influenced by the framing and the social as well as situation contexts of choices.
DETERMINATION	People's willpower is limited and subject to psychological biases that prevent long-run success.

Source: OECD, 2019.

According to the ABCD approach, the first behavioural barrier to be recognised in behaviourally-informed interventions is limited attention, which has been shown to be "scarce, easily distracted, quickly overwhelmed and subject to switching costs" (OECD, 2019, p. 73). This problem is relevant for individual as well as organisational decision-making, due to time pressure and volume of other decisions and tasks (Ocasio, 1997, 2011). While environmental concerns appear more on the management agenda in many instances sustainability is not embedded in a business model and there is no connection between day-to-day business operations and the higher purpose of the sustainability efforts (Bocken et al., 2014). Hence policy efforts to attract limited entrepreneurs' attention to environmental issues, for instance, by increasing salience of economic benefits of green investments. Making a business case for sustainability has been so far a frequent approach to encourage businesses to improve their environmental performance and engage in environmental innovation (Epstein et al., 2015; Schaltegger et al., 2012; Schaltegger, Wagner, 2006). In the last decade, however, the instrumental utilisation of environmental pursuits to advance economic gains has been criticized as insufficient to realise the true idea behind CES, (Nijhof, Jeurissen, 2010; Rode et al., 2021), because of the dominant role assigned to the economic pillar. Moreover, effective measures to improve CES do not always involve win-win situations, therefore pursuing competing economic, social, and environment goals at the same time is essentially an organizational paradox. Hence there is a need for corporate sustainability paradox management (Carmine, De Marchi, 2022; Luo et al., 2020; Hahn et al., 2018). Instead of eliminating the tensions between sustainability goals by simply aligning environmental and social goals with economic goals, "paradoxical resolution denotes purposeful iterations between alternatives in order to ensure simultaneous attention to them over time"

(Smith, Lewis, 2011, p. 392). This, in turn, requires framing policy issues as a request to assume broader corporate responsibility towards society and environment (Rode et al., 2021). The mental frame (business-case frame or paradoxical frame) which managers impose to the information environment to give meaning to complex and ambiguous issues direct their attention towards signals that fit their frame while ignoring those which are inconsistent with the frame. Therefore, in our survey we would like to learn: first, what are the firms' primary motivation to invest in pro-environmental solutions, whether the instrumental utilization of environmental pursuits to advance economic aims prevails; secondly, whether green investments are perceived by firms as an important way of creating a competitive advantage in the market.

The second aspect to be analysed in behaviourally-informed interventions is belief formation, which is about making sense of the world, as people do not carefully search for and scrutinise all relevant information, seek new information and update their beliefs accordingly (OECD, 2019). Biased estimates of business impact on environment may result from mental shortcuts and intuitive judgements based on the preconceptions, such as confirmation bias (Hofman et al., 2022), availability bias (SFOE, 2021), or overconfidence (Qin, 2019). These behavioural barriers can lead to poor decision-making as it distorts the reality from which we draw evidence. The confirmation bias describes the tendency to search for and interpret information in such a manner that it confirms our pre-existing attitudes and beliefs. People select information that supports their views and ignore contrary information, especially when they are faced with ambiguous evidence. It is assumed that it does not only prevent us from finding a solution but also to identify the problem to begin with (Ling, 2020). Hofman et al. (2022), for instance, point to confirmation bias as the reason why implementation of sustainable building measures in construction design was far from being desired despite of many efforts in this regard. They showed that building professionals had an inclination to interpret information in support of current beliefs what resulted in slowing down the adoption of sustainable building measures. On the other hand, the availability bias describes the tendency to rely on information that comes readily to mind when evaluating situations or making decisions. This applies, in particular, for recent experience, which is easily recalled and thus seems to be the most pertinent. It affects the perceived frequency of classes and subjective probability of events (Tversky, Kahnemen, 1973). Therefore, some people do not perceive global warming as a hazardous or a prioritized problem despite of a great abundance of scientific evidence on environmental pollution caused by human activity (Kiran, 2021).

Qin (2019), in turn, analysed the impact of managerial overconfidence on firm's environmental performance and found out that overconfident executives tend to underestimate firms' environmental risk leading to a low level of ex-ante environmental safeguards. According to the Be the Business (2019) Report "Raising UK competitiveness: Inside the mindsets of leaders of firms", there is a widespread bias towards overconfidence, as 80% of enterprises in UK consider their businesses as equally or more productive than peer firms. Policy measures addressing the above mentioned behavioural barriers to CES involve, among others, feedback mechanism and advice on resource consumption (see e.g. PwC, 2018, pp. 103–108). Acknowledging the importance of reference points in risky decision-making, in our survey we would like to learn whether firms are interested in what peer companies do to improve their environmental performance, as well as how they subjectively asses their environmental efforts compared to peer companies.

The third problem to be addressed in behaviour change interventions is the fact that people do not always choose as to maximise their expected utility. The context and the moment in which choices are made matter, as well as the arrangement and framing of options. Choice biases in the context of corporate environmental sustainability result, in particular, from choice overload (a large variety of equivalent options how to improve firm's environmental performance can negatively impact the accuracy of sustainability judgements), status quo bias, especially in complex and uncertain situations (the tendency to adhere to what is known and avoid change can prevent firms from becoming more sustainable or sunk cost fallacy (the tendency to adhere to a given plan due to already irretrievable invested funds) (SFOE, 2021; Users TCP, IEA, 2020; PwC, 2018; Fell, Giorgi, 2016). Policy measures to overcome these behavioural barriers include, first of all, eco-labelling (Burrato, Lotti, 2023), or green energy default options, i.e. pre-set options that take effect if nothing is specified by the decision-maker (Liebe et al., 2021). Moreover, given the human tendency to prefer avoiding losses to acquiring equivalent gains, (on average, the impact of losses is found to be around twice as strong, compared to equally seized gains) loss-framed instead of gain-framed messages are used to influence pro-environmental decision-making (Ghesla et al., 2020). Another policy strategy involves using trusted sources to communicate environmental messages. According to the so-called messenger effect we are heavily influenced by who is communicating the information. Information from "trusted sources" is more likely to be relied upon when making decisions and more likely to influence behaviour. Therefore, in our survey we would like to learn

what sources of environmental information are considered by firms as trustworthy.

The fourth of the main aspects of behavioural problems is determination. Environmental goals may not be well attended in the long run when e.g. a business case for sustainability is seen as an ad hoc measure, a supplement to a core business (Schaltegger et al., 2012). Behavioural levers which policy makers use to affect determination of firms to reduce their impact on environment include, inter alia: goal setting and commitment devices, as well as public disclosure – corporate targeted transparency to create social expectations (Hombach, Sellhorn, 2019). A commitment means "accepting a moral responsibility to behave in accordance with the undertaking, and strengthening the readiness to meet the corresponding obligations" (SFOE, p. 23). Commitments can be made privately or publicly, however, the latter are considered to be more effective in promoting the desired behaviour. There are two underlying mechanisms for that. First – when commitments are made public certain actions and attitudes that are relevant for that behaviour are more salient and remain stable over time. Second – public commitments encourage behaviour change through social pressure to stick to the commitment (Abrahamse, Steg, 2013). In our survey we would like to learn what factors strengthen the firm's determination to sustainable development, and in particular, whether environmental reporting motivates firms to be more sustainable.

The Sample and Data Collection Method

In order to investigate selected behavioural issues a survey was carried out among small and medium-sized enterprises registered and operating in Poland, excluding self-employed without employees. The study sample was a random study sample, stratified due to size of the enterprise and consisted of 350 SMEs. A quantitative, representative statistical method was used and the research techniques was CAWI. The survey was carried out between December 2022 and February 2023. Data has been gathered with the support of the external company specialised in conducting survey research.

The main advantages of the CAWI method include: (a) access to numerous respondents geographically spread out, (b) speed and low cost of implementation, (as there is no printing materials the method is also environmentally friendly), (c) computerization of the questionnaire (e.g. multimedia capabilities, adaptive questionnaires; the possibility of guaranteeing anonymity; questions and/or answers can be randomized

to eliminate question order effects), (d) time flexibility and self-administration of the survey (respondents answer the survey at their own pace whenever and from wherever they choose), (e) automatic verification of the logical correctness of the input data and automatic saving of survey results on the server, which makes the analysis process easier and more efficient. Disadvantages of the CAWI method include: (a) those associated with the lack of the interviewer, as well as (b) only respondents with the access to the Internet can be surveyed (Callegaro et al., 2015)."

The characteristics of the respondents are provided in Figures 1–6.

The respondents' size in terms of the number of employees were: 116 medium, 117 small and 117 micro-enterprises (Figure 1), active in the following economy sectors: production (62 enterprises), services (78), construction (50), transport and logistics (38), trade (56) and others (66) (Figure 2).

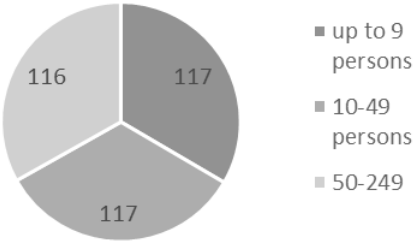

Figure 1. Number of Enterprises by Business Size (n = 350)
Source: the author's own elaboration.

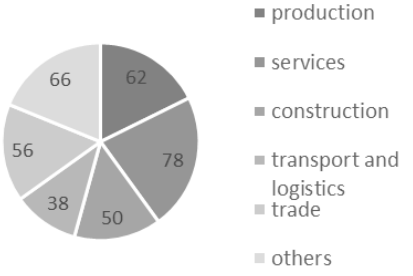

Figure 2. Number of Enterprises by the Sector of the Economy (n = 350)
Source: the author's own elaboration.

Regarding the place of economic activity – 178 enterprises conducted an economic activity in a large city with more than 100,000 inhabitants, 102 enterprises – in a medium-sized city with a population between 20,000 and 100,000, 49 enterprises – in a small city with less than 20,000 inhabitants and 21 enterprises in the countryside (Figure 3). As the place of establishment is not always a decisive factor given the development of electronic means of communications, respondents were also asked about the scope of their activity. Nearly one-third of them declared to operate on an international scale (117 enterprises), 87 enterprises – on a national scale, 65 – regional and 84 – on a local scale (Figure 4).

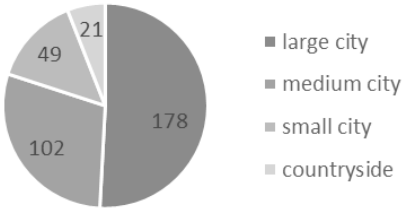

Figure 3. Number of Enterprises by the Place of Economic Activity (n = 350)
Source: the author's own elaboration.

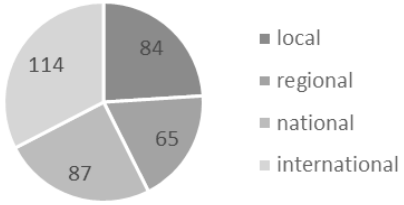

Figure 4. Number of Enterprises by the Scope of Activity (n = 350)
Source: the author's own elaboration.

Concerning the period of activity on the market – about half of the participating enterprises were present on the market more than 10 years (185 enterprises), 97 – between 5 and 10 years, 62 – 2–5 years and 6 enterprises – less than 1 year (Figure 5). Additionally, respondents were asked to state at what stage of enterprise development they are. Most of them declared fast or stable growth (296 enterprises), whereas 54 – slowdown or liquidation of business (Figure 6).

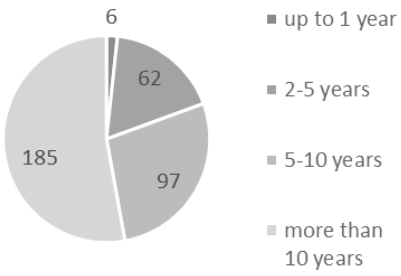

Figure 5. Number of Enterprises by the Period of Activity on the Market (n = 350)
Source: the author's own elaboration.

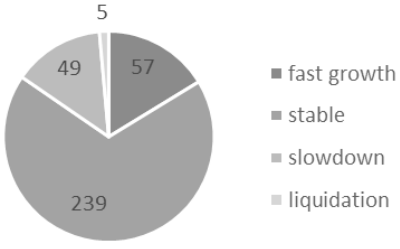

Figure 6. Number of Enterprises by the Stage of Enterprise Development (n = 350)
Source: the author's own elaboration.

The Results

Attention – a Scarce Resource

It has long been recognised by economists that limited attention is a scare resource to be allocated among a given set of alternative uses (Simon, 1971; Gifford 1992; Ocasio, 1997). With an increasingly information-rich world this problem becomes even more acute (Roetzel, 2019). The

psychology of attention posits that attention can be voluntary (endogenous) or involuntary (exogenous). Using Kahneman's words (1973) "voluntary attention means that the subject attends to stimuli because they are relevant to a task that he has chosen to perform, whereas involuntary attention is related to level of arousal, which is largely controlled by the properties of the stimuli to which the organism is exposed" (as cited in Falkier, 2008, pp. 1578–1579). Thus, endogenous attention in the firm is shaped by organisational goals and assigned tasks within an organisation (Ocasio, 1997). Respondents were asked whether they perceive sustainability and profitability more as competing goals or rather as mutually supportive goals. Majority of them (67%) perceive green investments as an important way of creating a competitive advantage in the market (see: Figure 7).

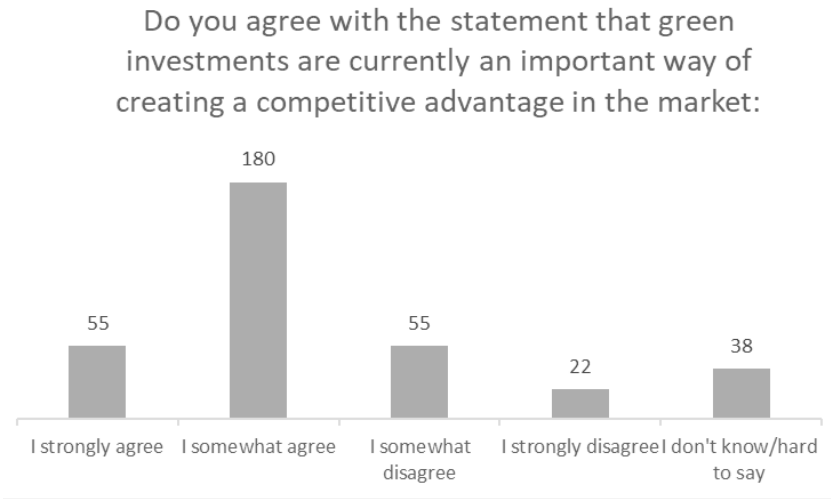

Figure 7. Sustainability Versus Profitability (Number of Firms, n = 350)

Source: the author's own elaboration.

Underlying of all goals is motivation. According to self-determination theory motivation can be autonomous or controlled. Autonomous motivation denotes an intrinsic desire to act, because it is personally valuable or inherently rewarding, whereas controlled motivation characterises goal-directed activities which are not self-determined. In this latter case, organisational behaviour is driven by a sense of pressure from internal and external stakeholders (Ernst et al., 2022). Different types of firms' motivation is an important issue to be recognised while developing behaviourally-informed public interventions to promote environmental

business conduct. Only 29 enterprises declared that they do not invest in green solutions at all. Among those 321 which do invest: 121 – do so because it is financially rewarding in the long run, 91 – because that is what their customers or enterprises they collaborate with expect of them, 37 – because of the legal requirements. 72 enterprises declared intrinsic motivation – "because this is the right thing to do" (Figure 8).

Figure 8. Motivations to Invest in Pro-ecological Solutions (Number of Firms, n = 350)

Source: the author's own elaboration.

Belief Formation – Biased Estimates of Firm's Environmental Impact

The second problem to be addressed in behaviour change interventions is the fact that people instead of forming their beliefs according to the rules of logic and probability often relay on mental shortcuts and intuitive judgments and as a result over- or underestimate outcomes and probabilities. Organisations are also constrained by time and resources and for that reason are prone to behavioural biases, however to a lesser degree than individuals because of the procedures that are put in place before decisions are taken (Wilson, Sonderegger, 2016; PwC, 2018). They are especially prone to overconfidence – their performance are often more highly rated than it is in practice. If it is true in reference to environmental business performance this unduly high self-assessment can give rise to the false notion about the need and firm's potential to

enhance its environmental sustainability efforts. Only 14 out of 350 of enterprises participated in the survey stated that they are not interested in what peer companies are doing to reduce their environmental impact and 32 – do not follow what peer companies are doing in this area due to lack of time but they would like to have such knowledge. Among those who use social comparisons (304 enterprises) – 66 consider they are leaders in their efforts to reduce business environmental impact, 166 – are equally good, and 72 – that they are falling behind in this respect.

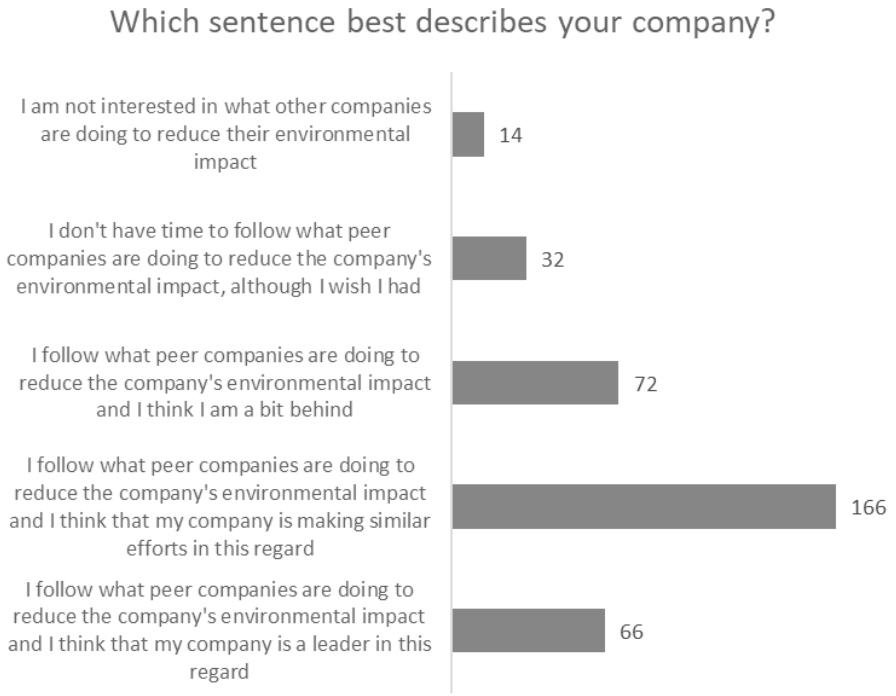

Figure 9. Using Social Comparisons and Self-assessment of Company's Impact on Environment (Number of Firms, n = 350)
Source: the author's own elaboration.

Choice – An Excessive and Confusing Quantity of Information

Businesses are continually taking in and processing massive amounts of information. How they use the information depends on who they receive it from. This is the so-called messenger effect. The weight decision makers give to information depends on whether a source can be deemed as credible. Information from "trusted sources" is more likely to be relied upon when making decisions and more likely to influence behaviour

(Fell, Giorgi, 2016; PwC, 2018). Therefore, firms were asked about their trusted sources as regards implementing pro-ecological solutions in the company. Moreover, in the light of existing literature (Schmidt et al., 2016) the impact of source credibility should be perceived as topic – and organisation –specific, thus, it has been statistically verified whether the selection of the source as trustworthy depends on firm's characteristics such as firm's size and the scope of the activity.

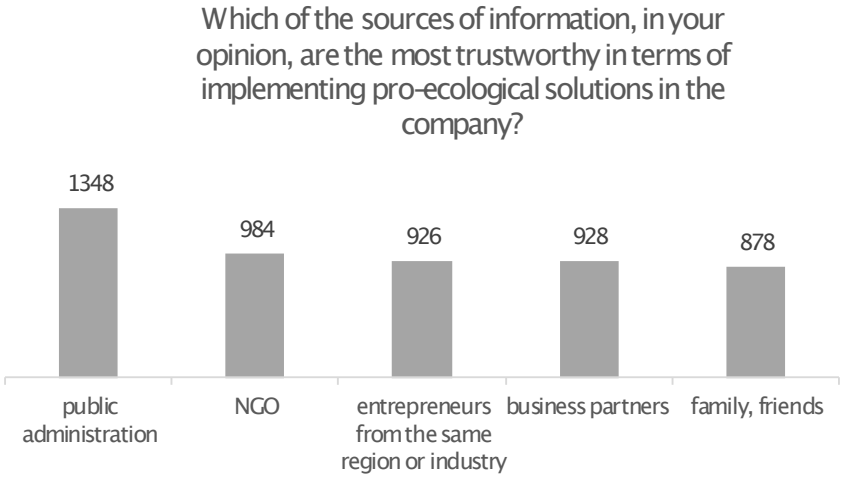

Figure 10. Trustworthy Sources of Environmental Information (Rating Scale 1–5, in points, n = 350).
Source: the author's own elaboration.

Generally, representatives of public administration – state officials, representatives of local government units are considered as the most trustworthy source of information when implementing pro-ecological solutions in the company. Followed by the third sector activists – foundations, associations and non-governmental environmental organizations, next – entrepreneurs with whom they maintain relationships, and entrepreneurs from the same region or industry. Family members and friends are considered as the least trustworthy in this respect.

In order to test the hypotheses that: the size of the company (micro, small, medium) has a significant impact on the trust in a specific source of environmental information (H1), and that the scope of business activity of the company (local, regional, national, international) has a significant impact on the trust in a specific source of environmental information (H2), Spearman's Rho tests were conducted, at the significance level of

0.05. The analysis in both of the aforementioned cases did not show any statistically significant correlations. Hence, it can be concluded that trust in a specific source of environmental information was not related to the firm's size, nor its scope of activity.

Determination – A Lack of a True Company Commitment to Sustainability

The fourth problem to be addressed in behaviour change interventions involves the intention-action gap. Achieving long term goals requires self-regulation and self-control. Effects of efforts made are not immediately visible and people lose motivation. For firms balancing "the people, profit and planet" can be a challenging task. Therefore, firms that decided to be more environmentally responsible may sacrifice their environmental goals for short-term profits. Therefore, the respondents were asked about the factors that strengthen the determination to sustainable development of the company.

Figure 11. Factors That Motivate Enterprises to Sustainable Development (Rating Scale 1–5, in points, n = 350)
Source: the author's own elaboration.

Incorporating specific environmental goals in the company's strategy and internal monitoring of the degree of their achievement was considered as the most motivating factor for a company to sustainable development. Followed by eco-certification and adoption of ecological standards that are audited by authorized third parties. A minor role in this respect play:

detailed information on the company's impact on the environment that enable better analysis of the costs and benefits of the company's activities, publicly available company environmental reports and priming in the workplace, i.e. ecological graphics, inscriptions, etc. in the working environment.

Discussion and Conclusions

Considerable body of literature on the behavioural factors that affect organisational behaviour divide the factors into: cognitive, social and cultural (Wilson, Sonderegger, 2016; PwC, 2018). This paper takes a somewhat different approach by adapting the ABCD framework (OECD, 2019), which focuses on four key aspects of behavioural problems, namely: attention, belief formation, choice and determination in a corporate context. Although all four dimensions are closely interrelated and affect each other, their distinction allows for a more fine-grained approach in policy-making.

Our research shows that green investments are currently perceived by businesses as an important way of creating a competitive advantage in the market (67%). Among those who invest in pro-ecological solutions most do so because it is financially rewarding in the long run (38%), which implies instrumental logic behind corporate sustainability. Other reasons are: pressure from the customers and business partners (28%) and legal requirements (12%). More than every fifth respondent (22%) asserted autonomous motivation. This is an interesting finding given the fact that extant literature suggests that contrary to controlled motivation – autonomous motivation generally results in more beneficial organisational behaviour in terms of e.g. knowledge sharing (Minbaeva, Santangelo, 2018), or higher level of innovation (Debrulle et al., 2020), and is easier to sustain over time than motivation based purely on reward and punishment. As a policy implication, it appears reasonable to argue that political leadership should not so much be aligned to match the motivation of decision makers in targeted firms but encourage a move from controlled to autonomous motivation, by e.g. integrating extrinsic motivation into organisational self-image, appealing to underlying factors of intrinsic motivation, such as need of autonomy, competence and relatedness (see: PwC, 2018).

If we put our findings in a European context – the report delivered for the European Commission "Study on due diligence requirements through supply chain" (European Commission, 2020, p. 71) points to reputational pressure to comply with environmental protection as a primary motivation

of European businesses to undertake due diligence (Due diligence is a broad concept which refers to identification, prevention, mitigation and accounting for adverse corporate impacts on the environment or human rights). However, the study involved European enterprises of all sizes, with 65.90% of business respondents with over 1000 employees; thus, large ones. In the literature, it has been suggested that companies react differently to external stakeholder pressure depending on their size (Haleem et al., 2022; Böttcher, Müller, 2015; Brammer et al., 2012). It has been also suggested that smaller organisations value more economic factors than reputation. Reputation is more important for larger organisations as they are more highly profile and attract more media attention (PwC, 2018, p. 29). Our findings confirm this view.

Moreover, our research shows that publicly available environmental reports are considered as a factor which does not notably strengthen the SME's determination to sustainability. Hence, caution is needed about hopes for nudging companies to improve their environmental performance through disclosure requirements (see: Tang, Demeritt, 2018). In the light of the EU Corporate Sustainability Reporting Directive (CSRD) – non-financial reporting is compulsory only for large companies and listed SME's. This means that most of SME's in the EU disclose information on a voluntary basis. They do so, because sometimes it is expected from them by their providers, clients, or suppliers, or they need it to apply for financial resources or because they imitate large companies. And while the literature on sustainability reporting is extensive, this is not the case for the scholarship focused on SMEs. The study of Ortiz-Martínez and Marín-Hernández (2023) is a rare example. They examined the voluntarily issued sustainability reports available on the Global Reporting Initiative (GRI) database for 2016–2018 by European SMEs. Their lexical analysis showed that there is some kind of a template for developing sustainability reports used by all the companies under investigation. This should be taken into account in the ongoing discussion of the convenience of the adoption of voluntary reporting standards also for non-listed SMEs.

Another point to note is that when a practice has ambiguous evaluation criteria as is the case with corporate sustainability, social comparison plays an important role in belief formation. In our survey respondents were asked to make a self-assessment of their environmental efforts relative to their peers. Vast majority (76%) claim to be the leaders or at least to make similar efforts to reduce their business impact on environment. Only 24% admitted to fall behind in this respect. This finding is important as unduly high self-assessment can give rise to the false notion about the need and firm's potential to improve its environmental performance.

Finally, our study revealed that representatives of public administration – state officials, representatives of local government units are considered as the most trustworthy source of information when implementing pro-ecological solutions in the company. This is somewhat contrary to extant literature which posits that "'distant' regulatory pressure" fails to reduce the SME's reluctance to voluntarily engage in corporate sustainability (Ernst et al., 2022). This finding can be arguable explained by the fact that Polish SMEs implement many green investments owing to public subsidies therefore it is important for them to do it in accordance with the subsidy requirements.

These results contribute to existing evidence of the starting dispositions of SMEs as targets of public policies promoting environmental goals in the EU. They should be taken into account when designing behavioural interventions, for instance, in the assessment how environmental concerns align with entrepreneurs' goals and motivations to frame policy issue appropriately, what sources of information to use to be more likely to influence entrepreneurs' behaviour, what are the best entry points for influence, peer pressure or other.

Limitations of the study include single-item measures. Attention, similar though as the three remaining behavioural issues, is a complex construct which is hardly to be captured adequately using only one or a few items. Therefore, in the next step multi-item measures should be considered to cover sufficient territory of the proposed target behavioural constructs. As regards attention, it could be attention breadth and depth, or attention sequence.

Moreover, to spur future research on promoting corporate environmental sustainability through behaviourally informed public interventions we conclude with a call for research that investigate the interaction of various behavioural biases relevant for corporate sustainability issues in different contexts. For instance, managerial overconfidence proves to be one of the most widely and controversially discussed personality traits of executives (Kunz, Sonnenholzner, 2013). On one hand, it is showed that overconfident CEOs tend to underestimate firm's environmental risk leading to a low level of ex-ante environmental safeguards (Qin, 2019), on the other – that CEOs overconfidence mitigate e.g. the sunk-cost fallacy (Mo, Park, Lim, 2021), or risk-aversion and thereby promotes the green innovation (Galasso, Simcoe, 2011).

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Women in the ICT Sector in European Union States: Facing Gender Inequalities

Abstract

This paper aims to investigate the patterns of gender inequalities in the Information and Communication (ICT) sector in European Union (EU) countries. Based on secondary data from Eurostat, a cluster analysis has been conducted to identify clusters of EU countries with various patterns of dependencies among the gender pay gap, female entrepreneurship, and employment in the ICT sector. Three clusters of EU countries have been identified with different patterns of the situation as regards women in this sector. In countries belonging to the first cluster, a higher level of gender pay gap coexists with the lowest share of female participation in the ICT sector and features the choice of entrepreneurship rather than employment. In countries of the second cluster, the lowest gender pay gap is observed together with an increase in female employment in the ICT sector as compared to the countries in the first cluster, and a higher share of employed women than entrepreneurs. In the countries of the third cluster, the moderate gender pay gap found therein is associated with the highest share of female ICT entrepreneurs, and is higher than the share of employed professionals. The discovery of the various patterns of the co-existence of the gender pay gap and women's participation in the ICT sector reveal that the pay gap is rather the factor preventing women from entering this sector, as there is limited potential to push them towards entrepreneurship instead of paid employment. The authors' results contribute to the theory

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of entrepreneurship and gender studies by investigating gender gaps in entrepreneurship and wages in the ICT sector as a primary sector.

Keywords: ICT Sector, Primary Sector, Gender Inequalities, Gender Pay Gap, European Union, Cluster Analysis

Introduction

Significant progress has been made in women's empowerment and in reaching gender equality. However, some gender inequalities in terms of wages and access to certain sectors or positions still exist (Soare et al., 2022; Coron, 2020). Women tend to be underrepresented in primary sectors with higher earnings and better career opportunities, while being overrepresented in secondary sectors with lower pay and fewer perspectives of professional development (Gaweł, Mroczek-Dąbrowska, 2022; Kapsdorferová, Jacková, Švikruhová, 2021; Agrawal, 2021; Damelang, Ebensperger, 2020; Aidis, Weeks, 2016). Women often face a gender-based wage gap which cannot be explained by differences in education and work experience, but rather by existing pre-entry discrimination related to social and cultural contexts, which reduces the accumulation of the human capital of women (Arrazola, de Hevia, 2018).

Today, the ICT sector is a primary labour market sector which shapes all aspects of human activity as the driving force of digitalisation. The significance of digital transformation places a premium on the interplay between genders within the ICT sector. Looking at data which has been published by Eurostat, the statistical office of the European Union (EU), the ICT sector is male-dominated, with the percentage of women among ICT entrepreneurs ranging from 12.2% to 32.6% (ec.europa.eu, 2024a), and the percentage of women among employed professionals from 17.4% to 23.6% (ec.europa.eu, 2024b) in various EU countries in 2020. Although the ICT sector is known for being highly paid, the gender pay gap in it ranged from 10.8% to 30.4% (ec.europa.eu, 2024c).

The importance of digitalisation along with the diversity of gendered aspects in this sector among EU countries are the main justifications for this research. This paper aims at investigating the patterns of gender inequalities related to the gender pay gap along with female participation in employment and entrepreneurship in the ICT sector in EU states. Aligned with this goal, the authors adopted the theory of occupational choice, which considers the choice between working as an employee or operating as an entrepreneur as alternative forms of professional activity

(Banerjee, Newman, 1993; Bradley, 2016). The rationale of this research assumes that the gender pay gap in the ICT sector, as an expression of gender discrimination, could prevent women from entering the sector entirely, or could even push them to undertake entrepreneurship as an occupational choice alternative to paid employment to prevent discrimination. To address the aim of the paper, a cluster analysis of data on EU countries was conducted to find different patterns of dependencies among the gender pay gap, female entrepreneurship, and employment in the ICT sector among EU countries.

The remainder of the paper is structured as follows – firstly, the authors discuss a literature review on gender inequality, with especial focus on the ICT sector. Then, they present the research method and results, and, finally, conclude by focusing on their results and highlighting those results' implications and novelty.

Women in the ICT Sector – Searching for Gender Equality

Belief in equal rights and access to opportunities and resources for all is an essential foundation for female empowerment, and one which contributes to significant progress in reaching gender equality (Freeman, Svels, 2022). Gender equality acknowledges that every individual, regardless of gender, deserves fair and equitable treatment and that society as a whole benefits when all members can participate fully and equally.

Despite the improvement made towards gender equality, numerous countries and sectors still experience a great deal of gender inequality (Bilan et al., 2020; Madsen, Scribner, 2017; Alsos et al., 2016), highlighting the persistent challenges that need to be addressed. One of the most notable issues is the gender wage gap (Coron, 2020; Ravazzini, Chesters, 2018; Lips, 2013; Khoreva, 2011), observed despite equal pay for work of equal value being one of the core values in modern societies (Amado, Santos, São José, 2018). The gender-based wage gap refers to a disparity in earnings between men and women, with women consistently earning less than their male counterparts for performing similar work (Sköld, Tillmar, 2015). The continuing separation of roles into so-called 'female' and 'male' responsibilities is also evident from the fact that 25% of women work part-time, compared to only 8% of men (Tokbaeva, Achtenhagen, 2021). The persistence of the gender wage gap underscores the deep-rooted biases and structural inequalities that continue to hinder women's economic empowerment.

Another area of gender inequality is female underrepresentation in power positions, including senior managerial positions, parliament

members, or entrepreneurship, with a significant gender gap in entrepreneurship persistent over time and space (Hagg, Politis, Alsos, 2023; Lewellyn, Muller-Kahle, 2020; Ughetto, Rossi, Lehmann, 2020; Lopez-Nicolas et al., 2020; Hernik, Minguez, 2020). Despite an increasing presence of women in the workforce with their equal qualifications and capabilities, they continue to encounter challenges in accessing top leadership roles. The exclusion of women from positions of political power also undermines the democratic principles of equal representation and participation, thereby hindering the implementation of inclusive and equitable governance.

The gender gap in entrepreneurship, despite a number of global initiatives and challenges, can still be observed in many countries of the world. It is caused by culture, religion, and various other social aspects (De Melo, Da Silva, De Almeida, 2019; Markussen, Roed, 2017). Women also face unique barriers when starting and scaling businesses. In European Union countries, women account for around 30% of entrepreneurs, while female-owned businesses are often smaller (Reichborn-Kjennerud, Svare, 2014), less profitable, and with lower access to financial capital (Morazzoni, Sy, 2022). Women with the potential to engage in entrepreneurial activities are deterred from entrepreneurship by limited access to financial resources or other reasons that prevent them from having equal opportunities (De Andrés, Gimeno, De Cabo, 2021; Parboteeah, Walter, Block, 2015; Avnimelech, Zelekha, 2023).

Little attention has been paid to the opportunity to target emerging technologies to match women's roles in processes in various contexts where the risk of gender gaps is overbearing and dangerous for social progress (Thylin, Duarte, 2019; Lafrenière, Sweetman, Thylin, 2019). Addressing the underrepresentation of women in senior management positions, politics or entrepreneurship is a vital step towards achieving gender equality by breaking down barriers, combating prejudice, and implementing inclusive policies.

The next aspect of inequality is related to gender representation in specific sectors, as men tend to be overrepresented in primary sectors characterised by the highest productivity and the best working prospects, while women tend to be overrepresented in secondary sectors that often offer limited opportunities for professional development (Gaweł, Mroczek-Dąbrowska, 2022; Kapsdorferová, Jacková, Švikruhová, 2021; Agrawal, 2021; Damelang, Ebensperger, 2020; Aidis, Weeks, 2016). Primary sectors, such as technology, engineering, finance, and high-end manufacturing, often dominated by men, are associated with higher salaries, career advancement opportunities, and positions of influence.

The underrepresentation of women in these sectors reflects a systemic barrier that limits their access to the benefits and rewards that come with working in the various fields of high productivity and economic growth. Conversely, women tend to be overrepresented in secondary sectors, which often offer limited opportunities for career advancement, lower wages, and reduced job security as compared to primary sectors. This overrepresentation reinforces the gendered division of labour, and is influenced by societal expectations, cultural norms, and systemic biases.

An example of a contemporary primary sector is the Information and Communication Technology (ICT) sector, which is not only a highly prosperous industry, but also shapes the way business and society function through the profound impact of digitalisation. The ICT sector encompasses a wide range of activities related to the development, implementation, and utilisation of digital technologies, including software development, telecommunications, data management, cloud computing, artificial intelligence, and more. The ICT sector's prosperity stems from its ability to offer transformative solutions, increase efficiency, and create new opportunities for economic growth. Organisations across industries rely on ICT technologies and services to enhance productivity, streamline operations, reach wider audiences, and tap into global markets. This sector not only generates significant revenue and employment opportunities but also fuels the emergence of new business models, entrepreneurship, and disruptive innovations. With changing demands, regulations, and significant pressure, work needs have increased tremendously in today's competitive age, leading to intensifying work/life balance challenges. The ICT sector is no exception in this sense, and responds to these challenges by engaging in initiatives such as work flexibility, compressed workweeks, job sharing, telecommuting, leave options, stress management, and child/dependent/elderly care, all in its attempts to attract more women into the sector (Phipps, Prieto, 2014).

Female Entrepreneurs and Specialists in Digitalisation

On the one hand, as digitalisation becomes increasingly pervasive, the ICT sector has the potential to empower individuals and marginalised groups and narrow socioeconomic gaps by providing access to information, education, and employment opportunities (Munyeka, Maharaj, 2023; Krchová, Höesová, 2021). On the other hand, the benefits and opportunities offered by the ICT sector are not equally distributed as gender disparities persist within the industry, with women being underrepresented in technical roles and positions.

The development of the ICT sector and the digitisation of its outputs can affect female entrepreneurship both directly and indirectly. It is essential to understand the implications of these changes, as they can shape the opportunities and challenges faced by women in the realm of entrepreneurship. A direct impact can be observed in the share of female entrepreneurs in the ICT sector, but the rationale for such changes is contradictory and rather pessimistic. Despite the potential for women to thrive in the digital realm, various factors hinder their full participation and success. The gender gap in entrepreneurship is widespread in the science, technology and engineering sectors (Lechman, Popowska, 2022; Hampton, McGowan, Cooper, 2011), and the ICT sector (Tihlarik, Sauer, 2021), and is sustained by the underrepresentation of women among ICT workers, as well as among graduates of STEM and ICT education at the university level (Lechman, Popowska, 2022; Kvasny, Trauth, Morgan, 2009). It is believed that the gender gap in employment in high-tech sectors is even widening (Lechman, Popowska, 2022). Indeed, gender biases and stereotypes persist within the tech industry, resulting in the overrepresentation of men in technical roles while discouraging women from pursuing entrepreneurship in the ICT sector.

In another aspect, the digital gender divide has also been recognised (Pawluczuk, Lee, Gamundani, 2021; Yeganehfar et al., 2018), as women's access to digital technologies and use of ICT is limited. Restricted access to digital infrastructure, digital literacy gaps, lacks of confidence in utilising technology, and cultural biases hamper women's ability to fully participate in the digital economy and take advantage of business opportunities in the ICT sector. The indirect impact of the ICT sector may be related to the process of digitalisation itself, which has already been heralded as an enabler of female entrepreneurship (Martin, Wright, 2005). The transformative process of digitalisation refers to the conversion of businesses into digital formats, which opens new possibilities for female entrepreneurs, lowers entry barriers, and provides women with greater access to markets and customers. Digitalisation is believed to make running businesses more genderless (Gaweł, Mińska-Struzik, 2023; Leong et al., 2022; McAdam, Crowley, Harrison, 2020; Yeganehfar et al., 2018; Ameen, Willis, 2016), transcending traditional gender roles and biases. It is shaping a new business culture and influencing the rise of women entrepreneurs online (Steel, 2021; Ughetto, Rossi, Lehmann, 2020) by democratising access to resources and removing traditional barriers to entry and fostering a culture of collaboration, knowledge sharing, and community building among female entrepreneurs. The gender gap in STEM higher education can be mitigated by the importance of self-

directed learning in ICT work rather than formal education in this field (Lemmetty, Collin, 2020).

With these contradictory premises in mind, the authors aim to recognise the patterns of gender inequalities in the ICT sector from the perspective of female participation in entrepreneurship and employment in this sector together and the existing gender pay gap to find different patterns of their co-existence at the macro-level of European Union countries.

The Research Method and Results

To achieve the purpose of the article, the authors adapted open-access data published by Eurostat, the statistical office of the European Union (EU). According to the system of NACE Rev.2 of the statistical classification of economic activities in the European Community, the Information and Communication Technology (ICT) sector is classified as NACE J, and all the data used in this paper reflect the situation in that sector. The year 2020 was accepted as the reference period for two reasons, both due to the technical availability of data for as many EU countries as possible, and because of the strong disruption of the ICT market caused by the pandemic and rapid digitalisation resulting from restrictions on personal interactions in favour of digital interactions. The pandemic brought about rapid growth of the ICT industry. As an example, the increase in the number of entrepreneurs operating in ICT alone stood at 8.3% in 2021 as compared to 2020. However, such changes are caused by external shock, not internal economic processes, and may thus bias the assessment of interactions.

Being aware of the diversity of concepts and definitions of entrepreneurs (Szaban, Skrzek-Lubasińska, 2018), the authors operationalised entrepreneurs as all self-employed persons, both with employees (employers) and without employees (own-account workers), similar to Chowdhury et al. (2015). Looking at the dynamics of entrepreneurs in the ICT sector in 27 countries of the European Union between 2008 and 2020 (fig. 1), some specific tendencies can be observed. One can observe that the total number of entrepreneurs operating in the ICT industry was systematically growing, from 681,700 in 2008 to 883,400 in 2020, which gives a total increase in the number of entrepreneurs by 29.6%. The number of female entrepreneurs in the ICT sector is also growing, but the increase in their number was much smaller at 13.5%, from 136,300 in 2008 to 154,700 in 2020. During that period, the share of women among entrepreneurs in the ICT industry decreased from 19.99% in 2008 to 17.5% in 2020, with the lowest share of women (16.45%) being recorded in 2018.

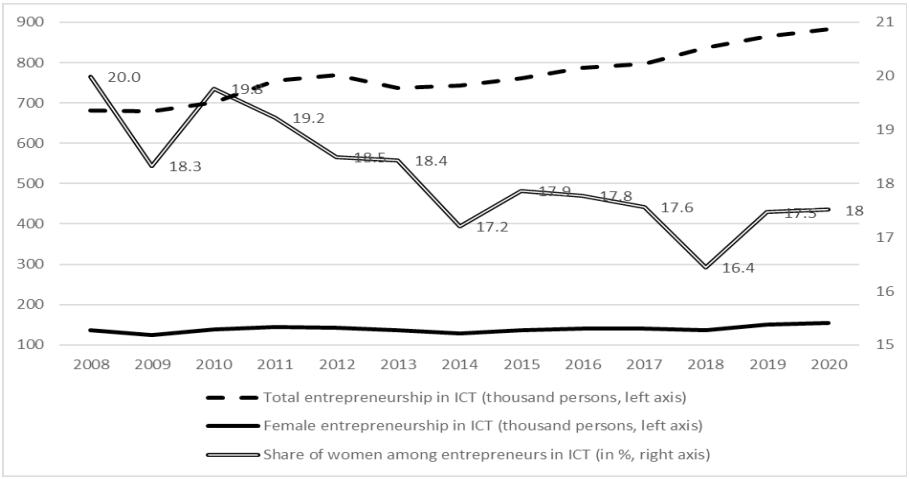

Figure 1. Entrepreneurs in the ICT Sector in the 27 European Union Countries in the Years 2008–2020

Source: the authors' own estimations based on data from Eurostat.

Similar tendencies can be observed when employment in the ICT sector in EU countries is analysed (fig. 2). Despite the growth in the number of employed specialists, from 5,000,000 persons in 2008 to 6,600,000 persons in 2020, the share of women among them decreased from 33.6% in 2008 to 30.1% in 2020.

The decreasing share of women in the ICT sector in the EU, both in employment and entrepreneurship, can be attributed to a combination of factors, including gender pay gaps, gender inequalities, educational barriers, and limited participation in high-technology positions.

To investigate the gender inequalities in this sector, the authors initially intended to include data for all EU countries in the analysis, but recognised a certain paucity of data on female entrepreneurship in ICT in some countries. Based on data availability, the authors analysed 16 EU Member States (Austria, Belgium, Croatia, Czechia, France, Germany, Hungary, Italy, Lithuania, the Netherlands, Poland, Portugal, Slovakia, Slovenia, Spain, and Sweden) in 2020.

To recognise the problem of gender inequalities in the ICT sector, four measures were initially analysed. The details of their measurement and descriptive statistics are presented in Table 1. First, female entrepreneurship in the ICT (FEinICT) sector was analysed, and, bearing in mind an average of 19.5% of women among ICT entrepreneurs, the lowest share was observed in Poland (11.2%) and the highest in Croatia (32.6%). The gender pay gap in this sector was on average 19%, with the lowest inequality noted in

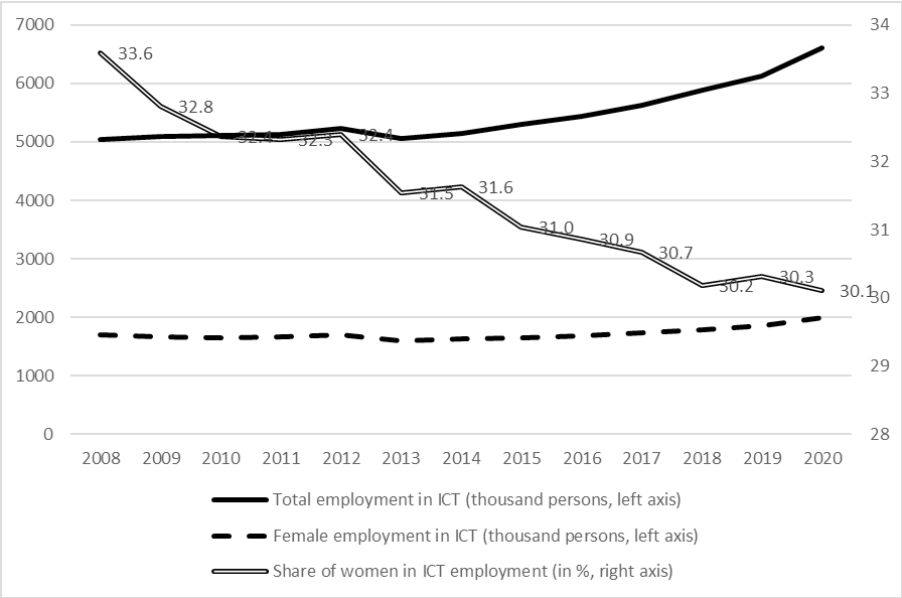

Figure 2. Employment in the ICT Sector in the 27 European Union Countries in the Years 2008–2020

Source: the authors' own estimations based on data from Eurostat.

Spain (8.6%) and the highest in Czechia (30.4%). Next, the share of women graduating in the ICT field of tertiary education in the total number of graduates was on average 0.7%, with the highest being in Sweden (1.6%) and the lowest in Belgium and Italy (0.3%). And finally, the share of women among ICT specialists was analysed (being on average 17.7%), with the lowest found in Czechia (10.3%), and the highest in Lithuania (23.6%).

The differentiation of the analysed countries of the EU was the justification for grouping the countries into clusters. The authors implemented a cluster analysis to group the countries into clusters in order to find groups of countries with similar characteristics within a cluster while being different from other clusters. The k-means clustering method was used, with the number of clusters determined by Ward's minimum variance technique, assuming a p-value significance level of $p < 0.05$ is reached. During the process of estimations, the share of women graduates (FGinICT) was statistically insignificant in the clustering and, consequently, this measure was excluded from the final analysis. Based on three other variables, the authors identified three clusters of EU countries, representing different characteristics of the female situation in the ICT sector (details in Table 2 below).

Table 1. Variables' Operationalisation and Descriptive Statistics for 16 EU Countries in 2020

Acronym	Variable explanations	Mean	Standard Deviation	Minimum value	Maximum value
FEinICT	Female entrepreneurship in the ICT sector; share of females aged 20–64 in the total number of entrepreneurs (self-employed both employers, with employees, and own-account workers, without employees) in the ICT sector NACE J (in %)	19.5	3.4	11.2 (Poland)	32.6 (Croatia)
PGinICT	Gender pay gap in the ICT sector in unadjusted form (in%)	19.0	1.2	8.6 (Spain)	30.4 (Czechia)
FGinICT	Share of female graduates in tertiary education in the field of ICT in the total number of graduates (%)	0.7	0.9	0.3 (Belgium, Italy)	1.6 (Sweden)
SFinICT	Share of females among employed ICT specialists (%)	17.7	2.8	10.3 (Czechia)	23.6 (Lithuania)

Source: the authors' own estimations based on data from Eurostat.

Table 2. The Mean Value of Variables and Between and Within Cluster Variance for 2020

Variable	Between clusters	df	Within clusters	df	F-value	p-value
FEinICT	318.945	2	206.990	13	10.016	0.002
PGinICT	505.195	2	290.169	13	11.317	0.001
FSinICT	87.905	2	86.525	13	6.604	0.010

Source: the authors' own based on data from Eurostat.

Descriptive statistics of clusters as mean values and standard deviation, as well as the countries belonging to them, are presented in Table 3. Cluster#1 is characterised by the highest gender pay gap in the ICT sector, resulting in the lowest female representation among ICT specialists and moderate representation among entrepreneurs. Cluster#2 is marked by the lowest gender pay gap, together with the moderate share of women among ICT specialists and the lowest among entrepreneurs. Cluster#3 represents a moderate level of the gender pay gap, as well as the highest share of female entrepreneurs and a moderate share of female specialists.

Table 3. Descriptive Statistics of Clusters

Variable	Cluster #1 (N = 5)		Cluster #2 (N = 6)		Cluster #3 (N = 5)	
	M	**SD**	**M**	**SD**	**M**	**SD**
FEinICT	16.601	3.321	16.381	3.112	26.111	5.349
PGinICT	26.720	2.553	13.167	4.468	18.220	6.408
FSinICT	14.200	2.897	19.333	1.558	19.160	3.194
Countries	Czechia, Germany, Hungary, Poland, Slovakia		Austria, Belgium, France, Netherlands, Spain, Sweden		Croatia, Italy, Lithuania, Portugal, Slovenia	

Note: M – mean value, SD – standard deviation.
Source: the authors' own estimations based on data from Eurostat.

Typically, EU countries are classified based on the so-called "Iron Curtain", a physical wall which divided Europe until 1989. Western countries are considered as so-called "old" EU members, with a relatively higher level of economic development, while Central and Eastern European countries are considered "new" EU members, entering the EU from 2004 onwards. However, as regards the female situation in the ICT sector, this typical division is not valid, as both Western and Eastern European countries belong to all three clusters. It can be assumed that other institutional factors, for example, national culture or labour market culture, can explain the division of countries in the context of the ICT sector, but it requires in-depth research.

To better visualise the differences among clusters, their mean values of all measures are presented in Figure 3 below.

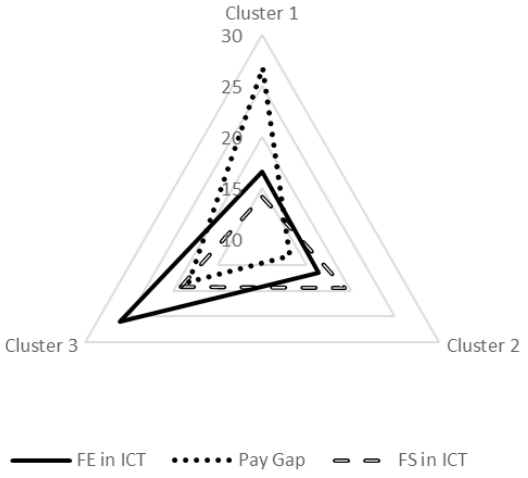

Figure 3. Visualisation of the Clusters' Characteristics
Source: the authors' own estimations based on data from Eurostat.

The Results and Discussion

Based on cluster analysis, three clusters of EU countries were identified, showing different patterns of dependencies among the gender pay gap, and female entrepreneurship and employment in the ICT sector. These clusters shed light on the diverse dynamics and contextual factors that shape the experiences of women in the workforce across different regions of the EU. The characteristics of all the clusters of the EU countries confirm the existence of gender disparities (Bilan et al., 2020; Madsen, Scribner, 2017; Alsos et al., 2016).

In the first cluster of EU states, a higher level of gender pay gap coexists with the lowest share of women's participation in the ICT sector; the share of female professionals in the ITC sector is the lowest. However, a shift towards entrepreneurship is also observed as the average share of female entrepreneurs is higher than the share of employed specialists. In this cluster, the representation of female professionals in the ICT sector is notably low compared to the other clusters, reflecting a persistent gender disparity in the industry.

The second cluster of states has the lowest gender pay gap, which has led to an increase in the involvement of female professionals in the ICT sector as compared to the countries in the first cluster. The relatively lower wage gap in the second cluster of countries is associated with a higher share of employed women in comparison to self-employed women. In the countries in the third cluster, the gender pay gap is moderate, resulting in the highest share of female ICT entrepreneurs among all these clusters. In this cluster, female entrepreneurship is the highest among all clusters and higher than the share of employed professionals.

The authors' cluster analysis allows for cross-cluster comparisons and the identification of best practices and lessons learned. In all the clusters, there exists a gender pay gap in the ICT sector, with the highest level being in cluster #1, which is in line with the observation of persistent inequalities (Coron, 2020; Ravazzini, Chesters, 2018). The results confirm that in the case of the countries belonging to cluster #1, the highest gender pay gap is the expression of gender discrimination and prevents women from entering the ICT sector, regardless of the form of activity. In this cluster, the highest pay gap co-exists with the lowest share of female specialists and a low share of female entrepreneurs. The identification of this cluster of countries is also in line with the observation of the existence of pre-entry discrimination, related to social and cultural contexts, and reducing the accumulation of human capital of women (Arrazola, de Hevia, 2018).

Analysing the descriptive statistics of clusters #2 and #3, the gender pay gaps within the second and third clusters are significantly lower than in the first cluster, which suggests that efforts have been made to mitigate gender-based wage disparities in the related countries, confirming the progress in gender equality (Freeman, Svels, 2022). While not eliminated, the narrowing of the pay gap indicates progress in promoting equal compensation for equal work, thereby creating a more equitable economic landscape for women. As a result, more women are motivated to explore entrepreneurship to leverage their skills, creativity, and potential within the ICT industry. We can also observe that the higher gender pay gap in cluster #3 results in a higher level of female entrepreneurship in this cluster compared to cluster #2. In the case of these two clusters, the gender pay gap is a factor affecting the form of women's occupational activity from paid work towards entrepreneurship while, at the same time, contributing to the theory of occupational choice (Banerjee, Newman, 1993; Bradley, 2016). This shift towards entrepreneurship can be seen as a response to the barriers and inequalities faced by women in the ICT sector.

The factors shaping women's experiences in the ICT sector across different regions of the EU, resulting in different clusters of countries, also indicate policy implications. The reduction of the gender pay gap is of the highest importance in countries belonging to cluster#1, and can be achieved by implementing policies and practices that promote pay transparency, equal pay for equal work, and the elimination of gender-based discrimination in the workplace. Due to the fact that entrepreneurship can be an answer to gender inequalities in the ICT sector, it is recommended that female entrepreneurs are supported in all clusters through targeted initiatives, such as access to funding, mentoring programs, and networking opportunities.

The results of the research point to the insufficient representation of women in the ICT sector, but it is also necessary to deal with the reasons why this difference exists. One of the key causes contributing to gender inequality in the ICT sector, as discussed in the literature, is the gender gap in education for technology (Lechman, Popowska, 2022; Kvasny, Trauth, Morgan, 2009). Indeed, data on the share of female graduates in tertiary education in the field of ICT in the total number of graduates (%) presented in Table 1 reveal this gender gap as well. However, the during the cluster analysis, this measure was not a factor statistically significant in clustering, meaning that it does not explain the differentiation of the EU countries involved. Such results can be interpreted in line with the observed importance of self-directed learning in ICT work rather than formal education in this field (Lemmetty, Collin, 2020).

To improve gender equality in the ICT sector, it is crucial to deal with gender stereotypes and to address, *inter alia*, the impact of technology-adoption decision-making processes; the role of ICTs in promoting gender equality; the influence of board gender diversity in high-tech firms; and the impact of technological change on gender inequality in the workplace. Additionally, gender diversity initiatives and workplace experiences should be considered as regards the promotion of inclusivity and equality in the ICT sector. Furthermore, reforming recruitment practices and integrating ICTs more efficiently into society can contribute to promoting ICT-sector-based gender equality. Addressing these issues requires a multifaceted approach that encompasses changing stereotypes, promoting positive role models, providing support for women in ICT, and addressing societal and cultural barriers. EU gender equality policies have led to the adoption of provisions promoting formal gender equality and the integration of women into the labour market. However, it is important to note that not all EU gender-related policies have been aimed at promoting equality but have been associated with reforming the EU social model towards more neoliberal, flexible, and high-employment labour markets (Lemeire, Zanoni, 2021; Rubery, 2015).

This study is limited by its focus solely on EU countries, so further research could also take into account patterns of gender inequality in other parts of the globe. Next, the authors conducted a cluster analysis based on data for 2020 to avoid any potential bias caused by the impact of COVID-19 on the development of the ICT sector. It is worth repeating the research and comparing the results in a few years' time when the impact of digitalisation fostered by the pandemic is internalised by the ICT sector. Due to the fact that the authors have analysed the situation from the macro-level perspective, further investigation could reflect the personal perspective of women operating in the ICT sector.

To sum up, gender inequality in the ICT sector is present in EU countries, with significant variation between states. Inequalities exist in both the gender pay gap and the underrepresentation of women among specialists and entrepreneurs operating in the ICT sector. European Union states exhibit various patterns of the co-existence of different aspects of gender inequalities in the ICT sector, with the pay gap rather being the factor preventing women from entering this sector with its limited potential to push women towards entrepreneurship instead of paid employment.

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International Benchmarking as a Method for Building a Learning Organisation in Public Administration. A Case Study of Phytosanitary Services in Europe

Abstract

The project analysed the functioning of the State Plant Protection and Seed Inspection Service (SPHSIS), and this article presents a study of the international benchmarking of public administration (6 seed Inspections from European Union countries were analysed). The research question posed by the authors of this article is: how did this tool help in the development and strategy planning of a public administration unit? The project used a number of research steps, both directly dedicated to benchmarking and interviews with Service recipients or Inspection staff. The following recommendations for Inspections emerge from a comparative analysis:

1) the introduction of the digitalisation of services, which may enable an increase in customer orientations,
2) legal changes in Poland's Inspection Service – increasing powers and building a single, national Food Agency.
3) Seed Inspection Service clients suggest increasing pro-export attitudes among officials.

Keywords: International Benchmarking, Learning Organisation, Public Administration, European Comparative Analysis, European Union

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Introduction

Governmental and local administration have been grappling with organisational, financial, and personnel challenges for years. However, there are organisations that do not wait for change but strive to enact it independently. An example of an organisation that takes matters into its own hands is the Plant Health and Seed Inspection Service (in Polish: PIORiN), which joined the GOSPOSTRATEG program and, in collaboration with consortium partners, implemented a project that allowed it to embark on a new path of development.

This article is based on the FITOEXPORT project (of the GOSPOSTRATEG program) funded by the National Centre for Research and Development (in Polish: NCBiR). Within the project, the functioning of the Plant Health and Seed Inspection Service was analysed. The basic tasks of PIORiN in the field of plant protection are regulated by Articles 79–81 of the Plant Protection Act. Among them are actions related to the supervision of plant health, the supervision of the introduction into circulation and use of plant protection products, the supervision of production, evaluation, circulation, and use of seed material. An inspection is carried out by the Chief Inspector of Plant Health and Seed Inspection and the voivode, who performs tasks with the help of the Voivodeship Inspector of Plant Health and Seed Inspection Service – the head of the Voivodeship Inspection of Plant Health and Seed Inspection Service, which is part of the government administration integrated at the voivodeship level. The Chief Inspector is a central organ of government administration subordinate to the minister responsible for agriculture. Appointed by the Prime Minister, the Chief Inspector carries out tasks with the assistance of the Main Inspectorate of Plant Health and Seed Inspection – GIORiN (Kłobukowski, Kłobukowska, 2021).

From the beginning of the FITOEXPORT project, and in parallel to other conducted research, members of a team from Warsaw University sought the best practices that could serve as a platform for discussions about potential new organisational solutions for PIORiN. The essence of benchmarking is the search for best-in-class organisational solutions. The objects of benchmarking do not necessarily have to be companies or organisations operating on the same market. What is important, however, is the convergence of certain features at the level of structures, tasks, serviced clients, etc. Observed solutions are usually not copied but serve as inspiration; a model solution that should then be subject to adaptation. From the FITOEXPORT project's start, it was assumed that the natural objects of benchmarking are phytosanitary inspections from

other countries. The goal of the project was to develop PIORiN towards becoming a learning organisation that modifies and improves its activities based on a database of collected experiences.

The aim of this article is to present, using the example of a state administrative unit, the impact of international benchmarking on the development of a learning organisation. The study guided PIORiN in the process of building its own strategy. The project used a number of research steps, dedicated directly to both benchmarking *and* interviews with Inspection Service recipients and/or Inspection Service staff.

The concept of organisational learning, although present in management sciences almost from their inception, became a popular trend in the 1990s primarily due to the work of Peter Senge (Sułkowski, 2003; Pasieczny, Rosiak, 2022). From his perspective, a systemic approach was crucial to organisational learning. In his vision, learning should not be sporadic or occasional but a constant phenomenon, enhancing an organisation's effectiveness. To achieve this goal, a diagnosis of organisational dimensions such as knowledge management strategies, knowledge-based organisational forms, information management, employee management, and organisational culture is essential (Rosiak, Postuła, 2022). An important element of systems conducive to learning is the utilisation of feedback loops (Senge, 1990). Their construction allows the delivery of feedback at specific moments, enabling a continuous monitoring of goal achievement, potential adjustments, and the shaping of new thinking patterns (Mumford, 1995).

Literature Review

The authors' approach to understanding the concept of organisational learning aligns with classical observations drawn from behavioural organisation studies (Levit, March, 1988). These observations suggest that organisational behaviours are based on routines (Cyert, March 1963; Nelson, Winter 1982). In such conditions, procedures are adjusted more to a specific situation rather than being the result of the process of analysing possible alternatives and choosing a particular option. Organisational actions are dependent on history and past experiences (Lindblom, 1959; Steinbruner, 1974), whereas organisations themselves are oriented towards goal achievement (Simon, 1955; 1957). In this context, organisational learning can be understood as being the ability to interpret conclusions from past experiences and transform them into new organisational routines (Levit, March, 1988). Learning can occur at the individual, team, and organisational levels and can involve many dimensions: climate; culture;

systems; and structures that influence whether individuals learn or not (Marsick, Watkins, 2003). However, barriers that hinder the learning process can also exist (2003). Among the most frequently analysed, we can include political factors (Van de Ven, Polley, 1992), cultural factors (Vince, Saleem, 2004), structural factors (Morgan, 1986), and financial factors (Rosiak, Postuła, 2022).

The construction of organisational learning systems aligns with the change-management concept, involving a sequence of planning, action, and the determination of outcome facts which can be condensed into three phases: unfreezing, change, and freezing (Lewin, 1946; Pasieczny, Rosiak, 2021). Organisational changes can be approached either gradually/incrementally (Braybrooke, Lindblom, 1963; Quinn, 1980; Nonaka, Takeuchi, 1995), or radically/revolutionarily (Stoddard, Jarvenpaa, 1995). Recognising the advantages and disadvantages of both approaches in their work, given the nature of the studied object – public administration, the authors leaned towards incremental changes.

Methodology/Research Scheme

In the study, three types of triangulation were employed in the forms of methodological, theoretical, and researcher triangulation. The research process began with an analysis of literature focusing on topics related to public administration and learning organisations. Simultaneously, analyses of existing documents regulating the functioning of the Plant Health and Seed Inspection Service were conducted. A further part of the research was based on open interviews (Czarniawska, 2014) conducted with a sample of 31 Inspection Service employees and 20 Inspection Service recipients. A benchmarking analysis was also carried out. The choice of benchmarks studied was deliberate. The first criterion was the size of the domestic agricultural market. The second was the structure of the Inspection in the given country and the scope of the tasks (countries where the Inspection has a vestigial role were dropped). The third criterion was the opinion of experts from PIORiN and Inspection stakeholders.

The interviews were always conducted by two researchers simultaneously. Due to the project's timeframe (pandemic), some interviews were conducted on-site with producers and exporters of plant products. Some were conducted on the ZOOM communication platform. Participants were selected in accordance with the principles of maximum variability strategy (Miles et al., 2014). To ensure comparability of results, the interviews were partially standardised. Interview scenarios were developed, and the researcher could expand upon the presented list of questions with additional issues related

to the topics raised by the interviewees. Each interview consisted of two parts. In the first part, the researchers introduced themselves, the goals, and the general significance of the study, indicating how the obtained data would be utilised. In the second part, questions from the questionnaire were asked. Each person interviewed was asked in advance for permission to record, with emphasis placed on the fact that the recording would serve solely research purposes, and the results would undergo anonymisation to prevent the interviewee from being identified. All the interviews were recorded, transcribed, and then coded. Based on code analytics, areas were identified that later became the focus of benchmarking research on other Plant Health and Seed Inspection Organisations operating in Europe. They provided empirical material used in the construction of the new organisational Strategy for the Plant Health and Seed Inspection Service for the years 2022–2027.

Benchmarking Research on Organisations From European Countries

A review of selected foreign state plant health organisations reveals that their placement in the administrative structure and the centralisation or decentralisation of statutory activities reflect the overall constitutional tradition of a given country. In the case of the examined organisations, they are positioned within governmental administration, either as part of a ministry or directly subordinate to a specific ministry (serving as an executive agency or another specialised entity). Some of them are specialised, meaning that the scope of their tasks and competencies focuses on plant protection, and that includes the certification of exports, while some also oversee other fields of activity. For example, one institution may be responsible for the broad protection of plants and animals, thus handling both phytosanitary and veterinary controls, while only within an internal specialisation will there be specific services (departments, directorates) responsible specifically for plant or animal protection. As indicated by the analysis, the proper plant protection services forming the NPPO or performing some of its tasks often have additional responsibilities related to the development/support of agriculture and processing. In such cases, control activities related to export inspection and certification are just one aspect of their duties.

What follows below are descriptions of international benchmarks for PIORiN. Countries that were part of the European Union at the start of the study were selected. This allowed for the exploration of solutions feasible to implement within the community's legal framework. Another

criterion for selecting countries was the size of the agricultural production of a given country. Consideration was also given to the indications from Service recipients and Inspection employees.

Holland (The Netherlands)

The Dutch National Plant Protection Organisation was established in 1899. In 2012, it was merged with other government agencies, leading to the formation of Nederlandse Voedsel-en Warenautoriteit (NVWA; www5) (The Netherlands Food and Consumer Product Safety Authority), an entity responsible for the broad spectrum of food and consumer product safety. This organisation's scope of interest encompasses both plant and animal health, as well as the prevention of phenomena that could pose a danger to the Dutch economy and Dutch consumers of food products. Due to its extensive competencies, this entity is significant for the functioning of three ministries: the Ministry of Economic Affairs, of which it is an integral part, the Ministry of Agriculture, Nature and Food Quality, and the Ministry of Health, Welfare, and Sport.

Since the NVWA monitors, among other things, the health of plants, within its structure is the National Plant Protection Organisation in the Netherlands (NPPO-NL). NPPO-NL is responsible for carrying out phytosanitary tasks aimed at preventing the introduction, creation, and spread of harmful plant diseases and pests. In practice, tasks related to crop monitoring and export certification are performed in the Netherlands by four entities, with the division based on the type of cultivation. This way, producers/exporters of specific plants (products) collaborate with the following specialised institutions:

- For flower bulb cultivation – the BKD, as detailed below,
- For horticultural propagation materials, plants grown in nurseries – Naktuinbouw, as detailed below,
- For seeds and potatoes – NAK, the Dutch General Inspection Service,
- For fruits, vegetables, cut flowers, potted plants, and other products – KCB, the Quality Control Bureau.

BKD [Bloembollenkeuringsdienst (The Flower Bulb Inspection Service)] is a public entity that operates at the direction and under the supervision of the Ministry of Agriculture, Nature, and Food Quality. BKD conducts quality checks of products as well as import and export checks on behalf of the NVWA. Naktuinbouw monitors and promotes the quality of products, processes, and chains in horticulture. The emphasis is on propagating material (seed material). Naktuinbouw is an administrative

body supervised by the Ministry of Agriculture, Nature and Food Quality. NAK is the Dutch General Inspection Service. The tasks it performs are carried out on behalf of and under the supervision of the Ministry of Agriculture, Nature, and Food Quality. KCB is a foundation whose board is composed of members nominated by industry associations from the fruit and vegetable sector and the floriculture sector. The appointment of the board president is approved by the Minister of Agriculture, Nature, and Food Quality. KCB is accredited by the Dutch Accreditation Council (RvA) according to the NEN-EN-ISO/IEC 17020 standard (registration number I070). This standard encompasses requirements imposed on an inspecting body. Accreditation demonstrates that KCB conducts inspections impartially and independently and possesses the necessary expertise to carry out inspections.

KCB's tasks include:

- Inspections of the import and export (quality) of fresh fruits and vegetables.
- Quality control of fresh fruits and vegetables traded in the Netherlands, excluding the retail stage.
- Import inspections (phytosanitary) of fresh fruits and vegetables, cut flowers, potted plants, and plant products not covered by a specific sector, also known as "various products".
- Sampling and monitoring actions related to exports to specific destinations, including the *monitoring of fruit and vegetable exports* destined for Japan, the USA, and Canada. Despite the numerous powers delegated to KCB, it is important to emphasise that phytosanitary export checks of plant products and the issuance of phytosanitary export certificates are conducted by NVWA officials. Observe, if you will, a much greater centralisation than that which is extant in the Polish model. It is also noticeable that one agency is responsible for a broad range of food protection, both of plant and animal origin. This is a fundamental difference in the functioning of Inspections, but it's worth noting that in Poland, there has been an on-and-off-again debate about the justification for establishing one organisation handling food safety in a broad sense. A very interesting element of the Dutch system is KCB. Perhaps a similar organisation created in Poland would become a significant factor speeding up the export of Polish products.

Indeed, a willingness to increase cooperation between PIORiN and Service recipients has been declared by both sides. Perhaps the creation of a large, centralised foundation would facilitate the export of Polish products and allow for the building of international relations. On the other

hand, in the eyes of Polish Service recipients, the Netherlands is presented as a country focused on food production and its export. Officials from the Netherlands are perceived as being very flexible, customer-oriented, and focused on achieving success: "For example, we also have information from market counterparts such as Dubai that in the Netherlands there is no protocol for exporting to India, but a certificate can be issued. These certificates have been sent, confirming that blueberries from Poland are good and suitable for export. The Dutch have their ways. A Dutch intermediary or company can buy blueberries from Poland, and quickly obtain a phytosanitary certificate in the Netherlands, miraculously. There is no hidden country of origin because there are labels that state the country of origin: Poland. They issue the certificate, send it. There is no problem" (RESP 10).

Thanks to flexible procedures and minimising barriers to export (also within the EU), the Netherlands becomes a country that earns money through mediation and resale of, for example, Polish food: "The Netherlands is an example of a country that has been trading fruits and vegetables for hundreds of years. They handle incredible amounts of those goods. We also know that some of those goods, for example, blueberries from Poland – incidentally, we don't trade with them because we don't like it very much – become Dutch blueberries after crossing the border and then, in England, cost two euros more" (RESP 10).

Based on the opinions of respondents, it can be observed that the Dutch counterpart of PIORiN is much more focused on supporting trade activities. It resembles more of a business than an office in its behaviour. This may be a cultural shock for Polish Service recipients.

The United Kingdom

The protection of plants and animals, as well as the implementation of policies to combat, among other things, the spread of plant diseases, falls under the competence of the Department for Environment, Food, and Rural Affairs (DEFRA, www.defra.gov.uk). DEFRA serves as the National Plant Protection Organisation under the International Plant Protection Convention (IPPC). Specialised entities, varying depending on the applicant's location, are responsible for receiving applications for phytosanitary inspections and phytosanitary certificate issuance.

Considering the federative nature of the United Kingdom, it should be noted that for England and Wales, the relevant agency is the Animal & Plant Health Agency (APHA), which includes the Plant Health and Seeds Inspectorate (PHSI). In Scotland, the plant-related authority is

the Science and Advice for Scottish Agriculture (SASA) branch of the Scottish Government's Directorate for Agriculture and Rural Economy. In Northern Ireland, the plant-related authority is the Plant Health and Tree Health Branch in the Department of Agriculture, Environment, and Rural Affairs (DAERA). The Channel Islands and the Isle of Man have their own plant health authorities.

For England and Wales, the agency responsible for implementing policies related to the health of animals and plants is the Animal and Plant Health Agency, which includes the Plant Health and Seeds Inspection. Producers and/or exporters of plant products must commission inspections from inspection officers and request the issuance of phytosanitary certificates (if required). For the export of seeds, potatoes, and bulbs, it is possible to apply for a certificate online through a so-called "eDomero" system. For other plants (fruits, vegetables, cut flowers, plant products, and grains), export can be declared through the Export Certificates and Inspections Service. To use the portal, one must have a Government Gateway account.

A crucial aspect in benchmarking with the United Kingdom, from the perspective of PIORiN's development, is the construction of an information system focused on customer service. This goal has become one of the key aspects of the development of the Polish organisation. So far, the lack of this type of solution has evoked negative emotions among Service recipients of Poland's Inspection. "It turns out at this moment that we all have to submit applications electronically. We have login systems, passwords, and specified procedures. If we add ePUAP (the electronic platform for public administration services) and the ability to sign documents electronically on this, we could work on utilising these, let's say, 'technological achievements' of the last few years, as I mentioned, and automate some of the procedures related to preparing documentation in PIORiN as well. I think that this is a really significant challenge, and I believe it is also an area where certain data and information could be systematised and globalised, concerning the institution itself, right?" (RESP 1).

Another significant benchmarking solution is the establishment of a single agency dedicated to food control, with the current iteration of PIORiN becoming one of its components. This kind of solution could shorten inspection times and improve the speed of international transport. The multiplicity of controlling entities and an excess of procedures are perceived by Inspection Service recipients as one of the main barriers to the export of Polish food.

France

The institution responsible for plant control in accordance with the Convention (National Plant Protection Organisation – NPPO) in France is the Ministry of Agriculture and Food – Ministère de l'Agriculture et de l'Alimentation (Directorate General for Food – DGAL). It sets developmental directions and creates relevant regulations. In practice, the execution of tasks related to plant production control is delegated to lower levels, following the decentralised nature of the French administration. The Regional Directorates for Food, Agriculture, and Forestry (Direction Régionales de l'Alimentation, de l'Agriculture et de la Forêt – DRAAF) are responsible for agriculture and report to the aforementioned ministry and its prefects. Within DRAAF, regional food services (Le service régional de l'alimentation – SRAL) operate, ensuring product compliance with applicable requirements and conducting phytosanitary certification for export notifications. Following the latest administrative reform, there are 13 Directorates in mainland France (including Corsica) and five in overseas territories (French Guiana, Réunion, Martinique, Guadeloupe, and Mayotte).

Producers/exporters of plant products must declare their export-based intention to the relevant local Directorate. Declarations can be made through the electronic Expadon system, providing access to the sanitary and phytosanitary requirements of third countries, allowing consultation of required certificates, and their teletransmission.

French farmers and exporters of plants and plant products can benefit from informational bulletins intended for companies seeking international development. These bulletins present the situation of the agri-food sector. The current 14th edition, prepared for 2022, focuses on 21 sectors of French agriculture and agri-food processing and 50 countries – all of which are potential recipients of French goods. It's also worth noting the advisors supporting agriculture export in the French system who carry out their economic missions in several dozen countries on all continents.

Should one analyse the NPPO in France and compare it to PIORiN, some similarities can be observed (voivodeships in Poland, prefectures in France, and regionalisation), but there is also a difference in one's access to digital solutions. French services offer their Inspection Service recipients access to IT solutions for clients, while in Poland, a client-oriented system is still under development. Also in France, the agency has broader powers and handles the entire food sector. The structure of the French organisation is adapted to the political system of the country. As one respondent put it: "And we suggested letting the exporter take full responsibility. We were

once exporters and worked in a simplified procedure, and the customs service trusted us and said, 'Okay, you are a credible exporter, you have your own customs code, your unique number, and you are responsible for what you send. That you won't put beets instead of apples or anything else because you are responsible for it from the beginning to the end'. So why can't the sanitary services, which are, in fact, checking only the presence of quarantine diseases, which, in Poland, are not really present on apples, be moved to this simplified form?" (RESP 2).

Germany

The proper functioning of the National Plant Protection Organisation in Germany, as mandated by the International Plant Protection Convention, and the execution of its responsibilities result from a collaboration of entities operating at both the central and regional (land) levels. At the federal level, the responsibility for plant protection and plant health, in accordance with the Plant Protection Act, lies with the Federal Ministry of Food and Agriculture (Bundesministerium für Ernährung und Landwirtschaft, or "BMEL"). BMEL is responsible for creating laws and officially representing Germany in plant protection and plant health matters at the international level.

The Official Plant Protection Services of the federal states (Länder) are responsible for implementing federal laws and regulations and applying phytosanitary measures. They are particularly responsible for inspecting plants and plant products during import, export, and transit, as well as their movement within the EU. They also oversee compliance with the International Plant Protection Convention (IPPC) and report any occurrences of harmful organisms to the Julius Kühn Institute (JKI). State plant protection services are equipped with diagnostic laboratories for phytosanitary research, and inspectors include officers and public administration employees. Plant health certificates are issued exclusively by the relevant State Plant Protection Services.

Various entities responsible for plant health protection in the federal states handle a wide range of agricultural, rural development, and plant health matters. These entities differ in structure, task scope, and emphasis, reflecting the socio-economic-geographic diversity of the German states. For instance, official information points for plant protection in the federal states (plant protection services) include:

- in Baden-Württemberg – the Augustenberg Agricultural Technology Center and the Regional Council of Stuttgart – Plant Protection Service,

- in Bavaria – the Bavarian State Institute of Agriculture (LfL) – the Plant Protection Institute,
- in Berlin – the Plant Protection Office,
- in Bremen – the state service for food, animal welfare, and veterinary services (LMTVET), which also includes the Plant Protection Service,
- in Hamburg – the Plant Protection Office in Hamburg,
- in Schleswig-Holstein – the Chamber of Agriculture Schleswig-Holstein, Department of Crop Production, Plant Protection, and Environment.

Regardless of which institution handles a case, procedures related to reporting the export of plants have been standardised for the entire territory of the Federal Republic of Germany. This is facilitated by the PGZ portal, which all entities intending to export products requiring inspection and obtain a phytosanitary certificate must use.

Characteristic of Germany is the adaptation of inspection operations to state-level structures while maintaining a clear, overall national centralisation. Germany also has a system oriented towards remote customer service. According to the respondents, the inspection system of our western neighbours is much less formal than in Poland and is more focused on supporting exports than on control: "'Sir, you would have to come to us because you need to submit an application.' I say, send it to my email, I will fill in the required data right away in the office and proceed. 'No, no, no, because it has to have a stamp'. It's just a disaster. And of course, it ended with a call to the client, I said no, this cannot be done in Poland. After half an hour, literally, there was a phone call because it was supposed to go to Amsterdam. After another half an hour, there was a call that it would go to Frankfurt because some customs agency, together with the German Inspection, I don't know what the equivalent of PIORiN is there, but with Germany, they will do the documents in half an hour" (RESP 12).

Spain

In accordance with IPPC guidelines, the role of the National Plant Protection Organisation in Spain is carried out by the Ministry of Agriculture, Fisheries, and Food (Ministerio de Agricultura, Pesca y Alimentación). The relevant department is the General Directorate for Plant and Forest Health and Hygiene (Subdirección General de Sanidad e Higiene Vegetal y Forestal – SGSHVF), integrated with the General Directorate for Health in Agricultural Production (Dirección General de

Sanidad de la Producción Agraria). According to information published on the Directorate's website concerning exports to third countries, businesses interested in exporting plant products must apply through the CEXVEG application for the issuance of the appropriate phytosanitary certificate. In the application, they specify the border control point, seaport, or airport of departure, or a control centre established and authorised for that purpose by the Ministry of Agriculture, Fisheries, and Food, where goods will be available for physical inspection, and the relevant phytosanitary certificate will be issued if required by the regulations of the destination country.

Characteristic of the Spanish phytosanitary control system is the operation of special control centres for trucks (ESTACIÓN DE CAMIONES), where, in contrast to other border control points, only *export* checks are carried out. The staff at these centres serve exclusively Spanish agricultural exporters and do not deal with phytosanitary checks of products imported into Spain. Currently, there are 9 such stations across the country.

The Spanish CEXVEG system (foreign trade with plants) is a computerised system for managing and supporting the official phytosanitary certification of exported products, available through the Ministry of Agriculture, Fisheries, and Food (www.mapa.gob.es). In addition to other services, it supports the export certification procedure, provides information to businesses, assists the SISVF and SSVCA services in their activities, and serves as an electronic window for the integrated management of the certification process, from the exporter's application to the printing, registration, and issuance of the phytosanitary export certificate.

Spain has introduced additional facilities for its clients. One respondent strongly emphasises the differences between the Polish and Spanish models. In Poland, there are officials, while in Spain, there are services oriented toward maximising exports: "We mentioned Spain as an example, where sanitary services, I repeat, services, not a sanitary official, but services, serve exporters 24/7. Seven days a week. To export as much as possible. Because there is no better business than export" (RESP 2).

A benchmark that can be borrowed from the Spaniards is joint service checks to expedite the transport of goods: "I imagine something like this; the Post Office, like in Spain, enters at once. Customs services at the same time. And quality and sanitary services. And everyone looks at their level" (RESP 2).

The Polish respondents note that the flexible and business-friendly attitude of the Spaniards hinders Polish products' competitiveness in the European market. On the one hand, the Spaniards have additional facilities, whereas on the other, there are exemptions from control if one

has certificates: "An even worse problem was that, as we see in Spain, not only does the Inspection work around the clock, it is in one place, that is, when leaving Spain towards France, there is one big parking lot where every major exporter applies for a certificate, and if they have a history that the production is supervised, it is simply issued on the spot. No one comes, no one examines because they know that the production is supervised" (RESP 3).

Poland's Inspection particularly fares poorly in certain categories of fruits, where speed and efficiency obviously matter: "We have supervision in orchards, and sorting is also supervised. So there's no problem. But in Spain, it's 24 hours a day, 7 days a week. And with us, in the case of soft fruits, it was like this; [supervision] until 3 pm on Friday, and then Saturday and Sunday it's closed, but these strawberries and cherries are constantly being picked. There is no Saturday or Sunday there" (RESP 3).

Research Limitations and Directions for Further Research

The primary limitation of our study is the need to confirm respondents' opinions regarding the significantly stronger focus on foreign inspections. Study trips to these foreign inspections were cancelled due to the COVID-19 pandemic. Therefore, future research should aim to verify this hypothesis and conduct an in-depth examination of cultural differences between Poles and residents of Western Europe. It may also be worthwhile to analyse Poland's post-communist past and its impact on the organisational culture of central offices, characterised by employees' orientation toward control and supervision rather than supporting economic development.

Discussion of Results

Organisations responsible for global food safety, especially plant safety, continue to seek opportunities to improve their activities. The State Plant Protection and Seed Inspection Service (PIORiN) also follows this path. The FITOEXPORT project, on which this article is based, has enabled Poland's Seed Inspection Service to enter a new organisational era. Through a new strategy and benchmarking of foreign inspections, PIORiN is becoming a customer-oriented, learning organisation.

Analysing the functioning of PIORiN and National Plant Protection Organisations (NPPO) in European countries, a noticeable trend towards digitising systemic solutions and offering clients the possibility of remote service has been observed. This trend was evident in benchmarks from France, England, Spain, and Germany, and this solution will expedite

customer service and increase the flexibility of inspection activities. Androniceanu et al. (2022) pointed to links between the digitalisation of public services and European countries achieving lower service costs, less bureaucracy and a decrease in corruption. Another benefit of digitising public administration is the building of support for sustainable development and a more inclusive society (Burlacu et al., 2021). Digitalisation has many benefits, and perhaps its introduction could increase customer satisfaction.

The European benchmarks analysed had a much broader scope of activity, usually in the field of food safety agencies. This solution could be implemented in Poland but would require a decision at the ministerial level. Another difference resulting from the analysis of existing data is the uniform subordination of foreign Inspections, while in Poland, there is a consolidated administration where PIORiN sets goals for regional units, and financing is provided by the voivode. This is problematic when planning activities.

In the opinion of Polish Service recipients, there is a belief in a stronger orientation towards export and support for national economies by Inspections from western countries. This is evident in their customer approach and a more flexible attitude towards procedures. It is very risky, as Polish products are exported outside the EU by western Inspections due to their faster operation. Changing the mentality of employees could be a key area of change during the building of a learning organisation. According to a study by Korunka et al. (2007), perceived customer orientation was related to job characteristics, organisational characteristics and the quality of employees' professional lives. Therefore, in order to achieve sustainable change in this area, major organisational changes are needed in the Inspection itself.

It is also worth making note of specific solutions drawn from individual countries, such as the KCB foundation from the Netherlands, whose solutions and working style could be implemented in Poland. Spanish solutions implemented seasonally during the harvest peak should increase exports and reduce the amount of food loss.

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EU Health Policy and the Healthcare Labour Market in Latvia: The Out-Migration of Healthcare Practitioners

Abstract

Healthcare systems in Europe are facing increasingly complex challenges that demand innovative solutions. Furthermore, public health is increasingly recognised as a productive factor which impacts the healthcare sector's contribution to national economies. The out-migration of healthcare practitioners from Latvia is one of the most pressing problems in the health sector, which, in turn, negatively impacts the country's economy. The outflow of healthcare practitioners to other EU countries has increased since 2004, the year which saw Latvia's accession to the EU. This trend is a consequence of labour accumulation efficiency in the single market, and this article aims at conducting analyses of the main push factors governing healthcare practitioners' emigration from Latvia and the impact of these factors on the healthcare sector. The complexity of this migration determines the use of an interdisciplinary as a methodological approach in the analysis of the main trends in the healthcare labour market. This approach can assist one in carrying out an assessment of the healthcare system's losses as a result of the out-migration which has occurred thus far. Particular attention is paid to the training of resident doctors as a perspective trend in keeping healthcare professionals in the country. The legal mechanism for recovering public funding dedicated to residency programs has also been assessed. In conclusion, the article states that the mass emigration of healthcare practitioners from Latvia may jeopardise the efficient functioning of the country's healthcare system.

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Introduction

The EU's main role in its health policy is to support the activities of the Member States in achieving shared objectives grounded in the Treaty on the Functioning of the European Union (TFEU, 2012, p. 76) and to encourage cooperation across countries. For further assessment, it is important to stress the main objectives of the EU's health policy as follows:

- to foster good health, to prevent disease, and promote healthy lifestyles by addressing risk factors including drug-related health damage and environmental risks,
- to protect citizens from serious cross-border health threats by improving surveillance and increasing the capacity to respond to new health-based challenges,
- to support dynamic Member State healthcare systems and to contribute to healthcare systems which are innovative, efficient, and sustainable,
- and to facilitate access to better and safer healthcare for EU citizens by providing support to the establishment of European Reference Networks that cooperate across borders to tackle rare diseases (EC, 2023).

Furthermore, the EU in its activities applies the 'Health in all Policies' approach (Stahl et al., 2006, p. 5). It is codified in the European Social Charter (European Social Charter, 1996), is consistent with the cross-sectoral nature of public health issues, and seeks to integrate health aspects into all relevant policy areas. Moreover, the EU facilitates coordination and generates economies of scale by pooling resources to tackle common challenges, such as the associated risk factors that mobile workers may face (European Parliament, 2020). The free movement of workers is a fundamental principle of the Treaty on the Functioning of the European Union (TFEU, 2012, p. 76). Indeed, EU citizens are entitled to look for a job in another EU country, and the objectives that are set out in EU policy on the healthcare sector are proved to be correct. Nevertheless, any EU Member State would have problems achieving and implementing these objectives in a situation with insufficient human resources.

In 2004, Central and Eastern European countries enlarged the internal market – including the labour market – bringing about changes in

European migration flows (Commission of the European Communities, 1996). 2004's enlargement had an influence on the labour market in Latvia as well as an out-migration of labour. The shortage of healthcare practitioners in Latvia was not immediately obvious immediately after the aforementioned enlargement, but, nowadays, it is easy to see that the country's patients face the harsh consequences of this problem in their healthcare service experiences on a daily basis.

In retrospect of the migration flows, Latvia faced several waves of emigration in the period of 1991–1994, with more than 150,000 people leaving the country (Central Statistical Bureau, 2023). That 150,000-strong flow of people headed to various former Soviet Republics, and occurred at a time when Latvia's economy was making its way through a transition period with significant economic and social changes and resulted in a sharp decline in the country's population (King, Muravska, 2007, p. 40). The second emigration wave can be considered as being between from 2000 and 2004, with almost 99,000 people leaving Latvia. From 2004, the number of people who made the decision to move to other EU countries started to grow rapidly (Central Statistical Bureau, 2023). This trend had a severe impact on the economy in the years that followed, beginning almost as soon as Latvia joined the EU, whereupon the economy started to grow quickly and labour became a scarce resource. This tendency continued during the global financial and economic crisis and a real-estate bubble, and eventually caused a third wave of emigration between 2008 and 2012. In total, more than 160,000 people left Latvia in that period, with more than 120,000 of them going to EU countries (Central Statistical Bureau, 2023). Many people left Latvia to find work in other EU countries just to be able to meet their monthly mortgage demands, and although the emigration rate has slightly decreased since 2012, it is still very high, with, between 2013 and 2016, more than 82,000 inhabitants leaving Latvia (Central Statistical Bureau, 2023). The trend of out-migration persists to this day, with around 15,000 to 20,000 people leaving Latvia every year (Lulle, 2018; Central Statistical Bureau, 2023). According to the experts' opinion, "There are targeted campaigns to recruit Latvia's skilled workforce – especially our doctors, nurses, IT specialists, and engineers in various fields. These countries [targeting Latvia's workforce] have specific strategies to attract labour, such as coming here to campaign in person at special events" (Mierina, 2023).

Healthcare practitioners leaving the country started in the 1990s and has occurred in all the aforementioned waves of emigration, but increased significantly after 2004 and continues as at the time of this writing. The author believes that the lack of human resources has become a considerable

problem for the further development and efficiency of the healthcare system in Latvia.

The Emigration of Healthcare Practitioners and the Shortage of Human Resources in the Healthcare Sector

Healthcare is extremely labour-intensive, and is one of the most significant sectors of the economy on the EU, providing employment for 9.7% of the EU workforce (Eurostat, 2023). At the same time, healthcare systems in Europe are facing increasingly complex challenges that demand innovative solutions. The restructuring of healthcare both in the EU and in Latvia coupled with demographic, technological, economic, and institutional changes impacts not only on the desires and wants of healthcare workers, but also on the nature and scope of their work and their contributions to the healthcare industry. Furthermore, public health is increasingly recognised as a productive factor. Healthcare's workforce shortage is a major problem in Latvia; the number of practising doctors was just 3.3 per 1,000 people in 2019 – significantly below the average for the EU (3.9 per 1,000), while the number of nurses was only about half the EU average and one of the lowest in the EU (OECD, 2021, p. 11). In addition, healthcare practitioners are highly concentrated in urban areas, which gives rise to equity and accessibility issues for residents living in rural areas.

The most important challenges facing the Latvian healthcare system were analysed in the highly detailed and comprehensive OECD Review of the Latvian Health System 2016, and the severe shortage of human resources is listed among them. The OECD's Review points out that Latvia has 3.1 practising doctors per 1,000 inhabitants, which, while being close to the OECD average of 3.2, one has to consider that many of those doctors will retire in the coming decades. The average age of family doctors in Latvia is 54, with more than two-thirds of practising family doctors being at least 50 years old, and more than a quarter are at least 60 years old (OECD, 2016, p. 13).

In a public statement in 2023, the Latvian Nurses Association, drawing public attention to the dramatic situation affecting human resources, pointed out that "Latvia's public-health-sector funding will be the lowest in the EU this year" (Latvian Nurses Association, 2023), and would fall below 4% of GDP in 2023 and the following years. There has also been a reduction in absolute numbers, from 2 billion euros in 2022 to 1.6 billion euros in 2023 and 2024 (CSB, 2023). To catch up with its neighbours and approach the European average, according to the Public

Health Guidelines 2021–2027 (Cabinet of Ministers, 2022, No. 359), as adopted by the government, the health sector should account for 6.5% of GDP, while the Latvian government's spending should be around 15%.

Latvia suffers from a chronic shortage of health workers; there are the aforementioned 3.3 doctors per 1,000 inhabitants, as compared to 5 doctors per 1,000 inhabitants in Lithuania. This is not comparable to the number of doctors in Western Europe, where there are 6.5 per 1,000 inhabitants in France, and 8 per 1,000 in Italy. "The number of nurses in Latvia is also dramatic – 4.6 nurses per 1,000 inhabitants. For comparison, Lithuania has 9.4 and Estonia 6.6 per 1,000. In Scandinavian countries, there are 15–17 nurses per 1,000 people. There is currently a shortage of at least 4000 nurses and nursing assistants in Latvia" (Latvian Nurses Association, 2023).

In 2019, the State Audit Office of the Republic of Latvia published an extensive audit study entitled Human Resources in Health Care (The State Audit Office, 2019), and its conclusions carry a negative tone about the current situation. The most important statements are as follows:

(1) in 2005, the Ministry of Health set the goal to provide the healthcare system with human resources in numbers and qualifications adequate to the demand, including creating effective human resource planning in the health sector, an improvement of the system of remuneration and social guarantees, and the development of education systems in line with the demand in the healthcare labour market. The audit concluded that the number of healthcare practitioners employed in the health sector continues to decrease, and that there is significant ageing of staff and, also, that large inequalities exist in the distribution of healthcare practitioners among regions and Riga;

(2) the ratio of doctors-to-population in Latvia is within the average level in inter-country comparisons, yet there is a shortage of doctors in some specialities, and in the regions there is a shortage of doctors in almost all specialities. The sector is critically short of nurses and midwives; the auditors estimate that at least 3,598 additional nurses and 295 additional midwives are needed;

(3) 92% of doctors graduating from residencies start working in the healthcare sector, while the benchmark is not met for other professions; only 52% of nurses and 54% of midwives start working in Latvia after completing their studies. Overall, only 65% of young professionals who have obtained their qualifications remain in the Latvian labour market after receiving their diplomas;

(4) a data analysis carried out in the audit shows that 55% of healthcare practitioners and support staff are over 50 years old. The situation in several medical specialties may be considered critical. As an example, 65%

of doctors practising in the country who are surgeons are over 50 years old, and that percentage includes 21% of specialists who have reached 65 years of age. To improve the situation, young professionals need to be prepared and measures shall be taken to keep them in the healthcare sector;

(5) one of the main reasons why the Ministry of Health has not been able to achieve its human resources development policy objective is the fact that, due to insufficient funding for remuneration, the Ministry has not been able to achieve the desired increase in the average salary of healthcare practitioners to 2.5 times the average in the national economy salaries, which was already planned in 2009. Only since 2018 has the Ministry of Health started to significantly increase the salaries of healthcare practitioners, promising to ensure that, by 2021, the average salary of doctors and functional specialists would be twice the average salary of those employed in the national economy. However, in the auditors' view, the long-standing historical neglect and underpayment of those employed in healthcare has led to a shortage of healthcare practitioners and has also had a negative impact on the prestige of the profession. Therefore, addressing the human-resource challenges in the healthcare sector must be a long-term priority for the Ministry of Health in order to ensure accessible healthcare for the population;

(6) the criteria set forth by the Ministry of Health for the generational change of healthcare practitioners have not been fully achieved, because although one of the performance indicators to be achieved is to increase the number of healthcare practitioners in the 'up to 40 years of age' age group working in the healthcare sector by 5%, the audit concludes that the criterion has not been achieved in all professions, for example, there has been insufficient generational change in the professions of nurses and nursing assistants;

(7) the number of nurses in the health sector is insufficient and continues to decline. Moreover, the age structure of nurses employed in the sector is significantly increasing. The Latvian Nurses Association has also pointed to the insufficient number of nurses to provide quality healthcare services, stressing that the work ethic and competence of nurses in the state-funded health system is not adequately valued; therefore, nurses drift towards working in either the private healthcare sector or abroad (The State Audit Office, 2019).

A public statement from the WHO in 2023 follows, reflecting and emphasising the challenges outlined above: "There is a shortage of specialists of all kinds, including surgeons, anaesthetists, internists, narcologists, and psychiatrists. The most challenging issue for regional hospitals is to provide specialists on duty for emergency care in regions of the country" (WHO, 2023). In the author's opinion, most of the problems

in the healthcare system are related to insufficient public funding, and one of the consequences is healthcare practitioners leaving Latvia because the countries they go to can afford to pay them much higher salaries. People want financial security and social comfort *now*. It should also be considered that the costs of goods, services, utilities, etc, when comparing Latvia with other EU countries, has levelled off considerably.

There is no completely accurate data on the number of healthcare practitioners who have left Latvia. According to the Latvian Medical Association, based on the applications submitted by medical practitioners for the recognition of their qualifications abroad, around 150–200 healthcare practitioners leave Latvia every year. Currently, there is a shortage of about 300 doctors and 8000 nurses in Latvia (Diena, 2023).

It is safe to say that the main push factor for doctors is remuneration. However, there are other reasons, too. For example, young doctors choose to go abroad due to the higher quality of resident training and working conditions that are to be found across borders, and the lack of doctors is felt at the residency level. Additionally, there is a lack of board-certified doctors to train and supervise junior doctors, and a severe shortage of doctors is observed in in public hospitals, where young doctors have to be trained and acquire a speciality. Such staff shortages often force young doctors to fill their work schedules with too many on-call hours, thus physically leaving no time to learn a speciality or have quality conversations with a board-certified doctor (Young Doctor's Association, 2019).

Among those who have left the country are medical practitioners who have taken out loans they could not repay and who ended up coming under the scrutiny of debt collectors and bailiffs as a result of 2008's economic crisis. Indeed, it is still common in Latvia for medical practitioners to be engaged in several job positions just to be able to provide themselves with a decent living (Portal Doctus, 2018). Another reason for emigration is professional development and social security. It is tempting to work in a high-end clinic abroad, and just in one job rather than several. Doctors abroad not only have economic security but also social security, with various relocation allowances and social benefits. The above facts have a strong impact on national losses including the macroeconomic situation, with, for example, the inflow of remittances from emigrants to Latvia contributing to inflation, which in turn limits the international competitiveness of Latvian businesses. An additional loss relates to the returns on state investments in the education system. Most of the emigration is undertaken by young people who have relatively recently completed their education in Latvia, and it can be estimated that the cost of training one medical resident in a residency programme can range from 20,000 to 40,000 euros depending

on the duration of studies and the speciality (Cabinet of Ministers of the Republic of Latvia, Regulation No. 685, 2011). A loss in tax payments to the state is observed, which is considered as the unearned income that the emigrant could have contributed to the national economy. This mainly relates to unearned tax revenues to state and local budgets.

Attracting and Training Young Resident Doctors

It is important for the country to train young resident doctors, who study in an accredited professional residency training programme in medicine to obtain a speciality and who secure an employment relationship with the medical institution that implements their training programme, whereupon they provide healthcare services under the supervision of a doctor who holds a certificate and is registered in the Register of Healthcare Practitioners. In 2021, there were an estimated 15.3 medical doctors graduating in the EU for every 100,000 inhabitants (Eurostat, 2021). The highest ratios were recorded in Latvia (27.3 per 100,000 inhabitants). In Latvia, medical education it is provided by specialised universities in cooperation with medical institutions and the Ministry of Health (Cabinet of Ministers, Regulation No. 685, 2011).

The fact that the training of young doctors and the overall issue of human resources is of the utmost importance for the Latvian Healthcare System is reflected in Cabinet Order No. 359 of 26th May 2022 "Public Health Guidelines 2021–2027". That document identifies the provision of human resources and skills development as one of the courses of related action. The objective is to increase the proportion of healthcare practitioners employed for the provision of state-funded healthcare services and to ensure their professional development as well as to guarantee a balanced generational change of the healthcare workforce.

"Residency" is the education of a doctor in an employment relationship with a medical institution providing an educational programme in order for that doctor to acquire a speciality in accordance with an accredited professional residency training programme in medicine. An essential part of medical education and a prerequisite for obtaining a medical certificate, residency entitles a doctor to practice fully and independently in their speciality (Krišjāne, 2007, p. 8).

Pursuant to the paragraph 11 of the Cabinet Regulation No. 268 of 24th March 2009, "Regulations regarding the Competence of Medical Practitioners and Students Acquiring First or Second Level Professional Higher Medical Education Programmes in Medical Treatment and the Amount of Theoretical and Practical Knowledge of These Persons", during

the first and second years of their residency, a resident who is studying a basic speciality may work under the direct supervision of a specialist certified in that speciality, with that resident having at least five years' experience in such a speciality after obtaining a medical practitioner's certificate, documenting the clinical experience gained and going on to receive an evaluation of the work performed from said specialist. The duties and rights of a resident in the course of the provision of medical treatment shall be determined by the head of the appropriate medical institution, taking into account the knowledge and skills acquired and assessed during the course of the medical education programme, as well as on the basis of a recommendation from the head of the relevant residency study programme and a specialist certified in the relevant speciality, whose length of service in the relevant speciality after obtaining a healthcare practitioner certificate is at least five years. In addition, in paragraph 12, it states, "The following persons may work under the supervision of a specialist certified in the relevant speciality, with at least five years' experience in that speciality after obtaining a medical practitioner's certificate, documenting the clinical experience gained and receiving an evaluation of the work performed from the specialist concerned; 12.1. from the third year of study – a resident who is studying a basic speciality; 12.2. a resident who is studying a subspeciality or additional speciality". Moreover, according to this Regulation, the scope of residents' independent work shall be determined by the head of the medical institution on the basis of an assessment of the theoretical knowledge and professional skills acquired by the resident during a study programme, conducted by the head of the relevant residency study programme and a specialist certified in the relevant speciality with at least five years' experience in that speciality after obtaining a medical practitioner's certificate. Following the administrative framework, it could be stressed that the minimum duration of a residency training programme for a person who has already acquired the profession of "doctor" to be eligible for authorisation to practice medicine independently, in accordance with their chosen competence, and after completing a full-time medical study programme, is set separately for each basic speciality of the medical profession. The scope of a resident doctor's independent professional work shall be determined by the head of the appropriate medical institution based on an assessment of the theoretical knowledge and professional skills acquired by the resident doctor and which is conducted by a certified, trained specialist in the relevant speciality (Slokenberga et al., 2015, p. 277).

The procedure for financing a doctor's residency and the procedure for recovering the associated funding shall be determined by Cabinet

Regulation No. 685 of 30th August 2011, being the Procedure for the Admission, Distribution, and Funding of a Residency. Paragraph 3 of Regulation No. 685 states the following: "The Ministry of Health shall calculate the number of residency places to be financed from the State budget based on the following data: (1) information provided by medical institutions on the number of doctors needed, (2) the number of doctors not working in their main job, (3) the number of unemployed doctors, (4) the number of doctors expected to reach retirement age within the next five years, (5) a mutual analysis of statistical data on the provision of doctors in European Union Member States, (6) the demographic situation and development projections, and (7) projections of the number of healthcare practitioners for full-time workloads" (Cabinet of Ministers of the Republic of Latvia Regulation No. 685, 2011).

The mechanism that prepares young doctors in Latvia is good enough for purpose, however, many young doctors do not end up in the public sector after their residency; they rather end up in the private sector. The Young Doctors' Association underlines the above regulatory framework as a reason for emigration, which stipulates the condition to work for 3 years in the public sector after completing a residency. In this regard, the Young Doctors' Association has said: "This violates the free movement of labour and severely restricts a young doctor's choice of future workplace. For example, if a young doctor decides to go for an internship or further research abroad after their residency, they will have to reimburse their residency expenses. The Latvian Young Doctors' Association believes that such attempts to forcibly keep young specialists in the country only encourage the current and future emigration of residents and exacerbate the shortage of doctors in Latvia. These Cabinet Regulations have been in force for several years, and reality has shown that such coercive restrictions do not work in the long term and will not retain young professionals in the country" (Young Doctors' Association, 2019).

However, when young professionals, faced with a prospect of having to refund the state budget for those investments spent on their education or to work for a certain period, the residents believe that their right to freedom of choice of occupation is being violated and could in fact even be considered as forced labour. However, according to the Article 106 of the Constitution of the Latvia (The Constitution of the Republic of Latvia, 1922, Article 106): "Everyone has the right to freely choose the occupation and workplace that suit their abilities and qualifications. Forced labour shall be prohibited. Involvement in the elimination of disasters and their consequences and employment in accordance with a court ruling shall not be considered forced labour" (The Constitution

of the Republic of Latvia, 1922). The Constitutional Court concluded that the regulatory framework established by the Cabinet of Ministers complies with the Constitution.

Box 1. The Constitutional Court Judgment of 3rd May 2012 in Case No. 2011-14-03 (The Constitutional Court's Judgment, 2012)

The Concluding statement: "First, according to Regulation No. 120 and Regulation No. 972, a person could choose the means for funding their studies during their residency. The Constitutional Court emphasises that the regulatory enactments do not impose an obligation on a person, but only the right to conclude a contract governed by public law on the payment of the individual's training in residency from the State budget funds. An individual can also pay for their residency training themselves or use the resources of other natural or legal persons, without being obliged to work for a specific medical institution for three years after completing their residency or to reimburse the state budget for the funds spent on their training. Secondly, if an individual has chosen to study in a residency at public expense, they are given the opportunity to choose which of several medical institutions to work in for the next three years. Thirdly, if an individual wishes to work in another medical institution in Latvia or to leave Latvia, they can reimburse the state budget funds spent on their residency training. In addition, these funds shall be repaid over five years, in monthly instalments and without a penalty, instead of being repaid in full immediately. Persons enrolled in a residency program who freely choose to enter a training contract for the payment of training from the State budget funds simultaneously assume certain obligations towards the State. This contract, governed by public law, is a win-win situation: on the one hand, the State commits to paying for the individual's training during their residency, and, on the other, the individual commits to working in the public health system for three years after completing their residency. Thus, the term 'Harm to the rights of the individual' should only be used conditionally in this case. The State has the right to require a person to fulfil the obligations they have undertaken. However, the benefit of this restriction on the right of an individual for the whole society is the possibility to receive healthcare services guaranteed under Article 111 of the Constitution or to recover the State budget funds for the investment in the training of the individual. Consequently, the benefit to society outweighs the fundamental right of the individual contained in the contested regulation".

This judgment of the Constitutional Court notwithstanding, there is an opinion that, in any event, the obligation to work in the public sector for 3 years after completing one's residency, as laid down in Cabinet of Ministries Regulation No. 685, is contrary to European Union law, which provides for the free movement of labour within the EU. On the one hand, one could agree that there is a certain contradiction with European Union law, which provides for the free movement of labour. However, on the other hand, it is reasonable for the State, in a situation where the State has paid enough money for the education of an individual, to oblige the individual to work for a certain period in the public sector in a field of medicine that is important to the State, providing healthcare services to the public.

Article 111 of the Constitution provides that the State shall protect human health and guarantee a minimum level of medical assistance to everyone. The framework established by Regulation No. 685 is one of the mechanisms by which the State seeks to ensure the existence and accessibility of medical practitioners and the services they provide to the population. In the author's view, the 3-year compulsory employment period should not be regarded as disproportionately long.

Conclusions

Healthcare systems in Europe are facing increasingly complex challenges that demand innovative solutions. The restructuring of healthcare in Latvia – coupled with demographic, technological, economic, and institutional changes – impacts upon the aspirations of healthcare workers, the nature and scope of their work, and their contribution to the healthcare industry. Public health is increasingly recognised as a productive factor.

Although financial considerations are the main reason for healthcare professionals' out-migration, there are other considerations, and are as follows: better career opportunities; the chance to work with state-of-the-art technologies; beneficial social security schemes; a new or improved work environment and culture, better quality residencies, etc. Consequently, a rapid and substantial increase in the remuneration of healthcare practitioners in the public sector is of prime importance.

The Cabinet of Ministries Regulation No. 685 of 30th August 2011 on the Procedure for Admission, Distribution, and Funding of a Residency, which provides for 3 years of work in the public sector after the completion of a residency, has not fully achieved its objective which is to reduce the emigration of healthcare practitioners and to train healthcare

practitioners in the provision of medical services. A large proportion of young doctors choose to emigrate after completing their residency. The author considers it of high importance to develop amendments and incorporate a note into the regulatory framework stating that persons should be exempt from the reimbursement of state budget funds in cases in which their studies have been abandoned for reasons beyond the control of the entity being educated. However, if young healthcare professionals have worked for a relevant period in their fields (under the supervision of a certified physician) and especially if the shortage of specialists at that time in healthcare is at its greatest (emergency medicine, surgery, etc), the reimbursement procedure should not be applied. Furthermore, whether the reimbursement system should be abandoned or be reconsidered has to be discussed and studied.

It is important to stress that the existing regulatory framework may clash with EU regulatory fundamentals on the free movement of labour. In the opinion of the author, the Ministry of Justice of Latvia should carry out a thorough assessment of the existing regulatory framework and its potential to be improved and not be in conflict with the EU's regulatory framework.

Solutions should be provided by the state, employing available human resources and providing the population with healthcare services at the required level. Otherwise, the mass out-migration of health care practitioners from Latvia to other EU Member States may jeopardise the efficient and sustainable functioning of the healthcare system in Latvia.

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The Atypical Forms of Employment Acceptance by Polish Full-Time Employees as per Modern Labour Market Rules in an EU-Country Context

Abstract

This manuscript is dedicated to atypical forms of employment which are a response to transactional relations between the employee and the employer on the modern labour market. The general research question is whether employees who accept atypical forms of employment (or "AFE"; readiness to providing work) obtain benefits in the form of high employability and well-being as well as low levels of job insecurity. The assumptions and the research scheme are new compared to previous studies. A quantitative CAWI study was conducted on a sample of Polish full-time employees (N = 543), as potentially voluntarily declaring their acceptance of AFE. In addition, well-being was operationalised according to C. Ryff's approach as a sense of agency in the creation of the professional environment. The respondents were divided into two groups – those accepting AFE and those accepting traditional, long-term employment, in reference to the concept of transactional and relational psychological contract. The regression analysis shows that the first group had a high level of employability. However, they achieved low levels of well-being, and job insecurity was not significant. These are individuals in managerial positions in the private sector. On the other hand, the group that accepts the traditional form of relationships are public sector employees and have high job insecurity only. An important determinant of the acceptance of AFE is the so-called 'Big Five trait' openness. In addition, the level of acceptance decreases with age. Gender and education are not statistically significant.

The focus in this paper on full-time employees, and the benefits of AFE, fill the research gap in this area. It also delivers recommendations for

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labour market practices and policy on how to support employees on the modern labour market in EU countries.

Keywords: Atypical Forms of Employment, Transactional Psychological Contract, Flexible Employee, Job Insecurity, Employability, Well-Being

Introduction

The labour market in the EU is facing a number of challenges related to many changes, including technological, demographic and educational issues, as well as sustainable development and globalisation processes. The consequence is that of a problem for creating constructive and business-efficient relations between employees and employers. A manifestation of this is, for example, the indicated problem of low engagement and employees quiet quitting (Gallup, 2023). Establishing the principles of cooperation that satisfy both parties is, therefore, an important aspect that may be decisive for building the competitiveness of enterprises, especially from a global perspective. This necessity results, among other things, from a shortage of qualitative and quantitative competences of employees, which is not solved on an ongoing basis by the education system, nor does it keep up with labour market needs (PARP, 2020). The result of the activity of entrepreneurs looking for solutions is the development of atypical forms of employment, also known as alternative or flexible (OECD, 2019). Thus, we are dealing with a kind of bottom-up initiative, thanks to which entrepreneurs have generated special forms of relations with employees.

After their appearance, AFE-governing legal regulations were developed to take care of the interests of both parties (Walczak, 2023). This is important because, as practice shows, there have been many abuses of workers' rights, hence the need to protect the social rights of employees (Sluiter et al., 2022). The benefits of atypical forms of employment for employers seem to be obvious, as they include lower costs and access to competences, which increases the flexibility of responding either to customer needs (Randstad, 2021), or changes in the economic situation (Brzeziński, 2017). This is not the same case with employees. It is assumed that the degree of acceptance and application of these practices may vary depending on the economic sector, organisational culture, as well as the policies of the countries within the EU (e.g. Gialis et al., 2017).

Generally, previous studies on this subject are dominated by the assumption that AFE is disadvantageous for employees. The presented research focuses on risks to workers due to, among other things, lower

salaries and higher job insecurity (Ratti et al., 2022). This is associated with the disappearance of traditional relationships between employee and employer based on long-term employment. A transactional, psychological contract with more or less short-term employment is being formed, which requires adaptation of both sides of such relations (Pawłowska, 2022) to be satisfied and to see the benefits of the contract form, especially its rules.

In this article, the formulated general research question is whether employees who accept AFE (in the sense of being ready providing work) enjoy the benefits of high employability and well-being as well as low job insecurity which enables them to function effectively on the modern labour market. Full-time employees were selected for the study so that the measurement of AFE acceptance resulted from their declared voluntary choice, without external pressure to be employed in this form, which is very important (Bąk-Grabowska et al., 2022; Van Aerden et al., 2015).

The proposed approach is different from mainstream research and delivers a contribution to science in the context of transactional labour market rules.

So far, in publications, the perspective of economics and labour law have been presented (Walczak, 2023; Markefke et al., 2020; Valletta et al., 2020), along with the issue of social benefits, household income (Gouzoulis et al., 2023), the worse position of women (European Parliament, 2020; Menendez-Espinai et al., 2020), the relationship with age and education (Green et al., 2017; Sobocka-Szczapa, 2015), as well as the impact of the pandemic (Granger et al., 2022).

From the psychological or managerial perspective, individuals on atypical forms of employment are diagnosed in terms of commitment (Panaccio, Vandenberghe, 2009), and job insecurity (Morgan et al., 2000). The analysis on the well-being of European labour market employees was conducted by K. Van Aerden et al. (2015).

The dissimilarity of the studies presented in this article is due to the fact that they focus on full-time employees, measuring their acceptance of AFE in general, and not in relation to particular forms. The assumption that, thanks to this, they achieve benefits in the form of a higher level of employability, which in turn reduces job insecurity and increases their efficiency in the transactional labour market, is verified. At the same time, it affects their well-being, which has been operationalised as a sense of agency in shaping the individual's relationship with the environment, in this case, the professional environment (Ryff, 1989, after: Karaś et al., 2017) which is unusual in relation to previous studies.

The aim of the research is also to search for determinants of AFE acceptance. The Big Five personality traits were included, whose

importance for the professional functioning of individuals, including one's readiness to change or look for a job, is confirmed by numerous studies (Li, Guan et al., 2015; Villas et al., 2010).

At the same time, demographic variables such as age, gender and education were controlled. In addition, referring to previous studies, the public sector (administration) vs. private sector (Keller et al., 2015) and the managerial vs. non-managerial position (Kattenbach et al., 2023) were among the controlled variables. Highly-qualified specialists were excluded from the analyses, whose potentially special position on the labour market could distort the results of the research.

The hypotheses were verified based on regression analysis in two groups of respondents: those accepting AFE and those accepting traditional, long-term employment, referring to the concepts of transactional and relational psychological contracts, respectively.

The research perspective presented in this article is therefore a search for employee benefits, in contrast to the hitherto dominant trend of research pointing to AFE risks. It is a search for solutions for effective cooperation between the employee and the employer according to the transactional rules of the modern labour market.

AFE in Poland Compared to the EU

Alternative forms of employment were selected for the analysis in accordance with the existing classification, regardless of the possible doubts arising as to whether, for example, remote work should be included in them. This is because it is about taking into account the way work is performed and relations with the employer that are different from the traditional ones.

AFE is characterised by the flexibility of time and place of work, the form of employment relationship, the form of employee-employer relationship, remuneration, and the scope of work (Berezka, 2012). Compared to the EU, Poland ranks fourth lowest in terms of the share of people employed in the traditional form, i.e., for an indefinite period of time. According to the data included in the Labour Market Monitor report, 56% of respondents are employed on the basis of a full-time employment contract. In second place was a fixed-term employment contract (20%). 14% of the respondents indicated their employment as being under a contract of mandate or contract for specific work. By comparison, in 2016 in the EU-28, the proportion of 15–74 year employed olds on a fixed-term contract was 14.2% (Eurostad, 2018).

AFE includes remote work, which, according to the Central Statistical Office in Poland for 2023, is performed by 7.1% (GUS, 2023). In the EU,

13.5% worked remotely in 2021. A special variant of this form of work is so-called "cloud working", which is associated with greater independence and work for many entities (wei.org.pl, 2022). In addition, platform work is also mentioned, allowing employees and employers to be matched, and tasks are often shared and then assigned to employees in a virtual cloud. According to EY data, 10.9% of employed people declared that they performed this type of work (wei.org.pl, 2022). At the same time, according to Eurofound (2016), platform work is the main source of income for only 1–2% of workers in the EU, and 10% do it occasionally.

Another atypical form is the work of freelancers, who, according to the Central Statistical Office, account for 19.4% of employed people in Poland (Piwowarska, 2023). Currently, it is a very fast-growing form of employment. According to a Brief report, there are already 1.1 billion freelancers working worldwide, 35.5% of whom are in Europe. Leasing employees and temporary employment is another form, with 242,000 temporary workers to be found in Poland (www.rp.pl, 2023). Employee sharing refers to a situation where employees are sharing resources between different employers or projects. Analogous job sharing is a ituation in which two or more people share full-time work, and who share the duties and responsibilities associated with one position, e.g., working on different days or shifts. There is also collaborative employment, i.e., cooperation between freelancers and self-employed people in order to jointly implement projects that exceed the capabilities of each of them individually. Another term used to describe this phenomenon is crowd working, but in this case it primarily refers to online work through modern technologies (wei.org.pl, 2022). In addition to the above-mentioned, AFE also includes casual work, voucher-based work, or portfolio work.

AFE can generate a number of benefits for employees. For example, employee sharing, contrary to appearances, reduces precariousness because it creates full-time jobs for workers that could not be offered by a single employer (Eurofound, 2016). More arguments pointing to the benefits of this form for the employee can be found in the next chapter.

An Employee on the Modern Labour Market

The AFE described above fits in with the current rules of functioning on the modern labour market. This article assumes that alternative-forms-of-employment acceptance by employees will occur when they contribute to solving problems and improving adaptability, bringing about real benefits, and not just be seen as an unusual form of relationship with the employer. This requires, first of all, identifying employee needs resulting

from the realities of the labour market and the conditions that must be met in order to function efficiently (Eurofound, 2016). The picture of an employee's situation can be described from various perspectives. This article adopts an approach relating to changing the psychological contract between the employer and the employee from a traditional, relational one to a transactional one (Pawłowska, 2022).

As defined, "a psychological contract consists of employees' ideas about the employer's expectations of them and the employer's expected reactions to the employees' behaviour" (Rousseau, 2001, cited in: Wellin, 2010, p. 43). A relational contract involves a focus on long-term employment and meeting each other's needs. In a transactional contract between an employer and an employee, there is a para-economic exchange of benefits within a strictly defined scope of duties and tasks of both parties, which involves a more or less short-term contract.

The change in psychological contracts is a consequence of general processes, such as the shortening of the existence of economic entities and thus the inability to work in one place throughout one's life. For example, in 1960, the average lifespan of a Fortune 500 company was 33 years, and, by 1990, it had dropped to 20 years. It is currently around 15 years and it is estimated that half of the companies that make up this list will disappear within ten years. In addition, technological developments are accelerating the aging of professional competences, from thirty years in the 1980s to less than five years today (Lamri, 2021). Automation processes and the use of robots will accelerate these processes. All this adds up to a fundamental problem for employees, which is job insecurity and a constant need to look for another job. The way to deal with this situation is for the employee to build employability (Pawłowska, 2022). As a result of doing so, the employee obtains a guarantee of employment, having a portfolio of competences that they can offer to the next interested employer, instead of struggling to keep their current job (Frey, Grill, 2015). Therefore, the question arises whether employees, by accepting AFE, increase their employability and reduce job insecurity or not. If so, it would mean that they are able to adapt to the transactional rules of the modern labour market. This established research problem is a kind of contradiction to the view prevalent in the discourse that AFE is associated with job insecurity (Wood, Lehdonvirta, 2021).

The general belief that dominates in research is that an individual obtains job security when he or she can work for a given employer for as long as possible. Meanwhile, in this article, employability reduces job insecurity due to one's ability to get another job. Therefore, in order to grasp the essence of the adopted approach to job insecurity, it is worth

distinguishing between, in accordance with J. Lamri (2021), work and employment. Work is the totality of activities aimed at achieving a result, whereas employment is a contract regulating the relationship between an organisation and a person, and this is the subject of interest of legal regulations and refers to AFE. Employability thus ensures lower levels of job insecurity by guaranteeing a job, not employment, as is the case in traditional, full-time relationships. Therefore, in this article, external employability is diagnosed, referring to the external labour market. G. Standing (2014) points this out when he states that some prefer to be "traversers" and, therefore, not everyone should be seen as victims of the profit bias of companies.

Very often, AFE is associated with low levels of well-being (Mockałło et al., 2022). In the context of employees' AFE-based well-being, R. Sluiter et al. (2022) examined their opportunities to participate in the problem-solving process. K. Van Aerden et al. (2015) identified a relationship between employment quality and work-related well-being in the European workforce, linking this to employment arrangements.

It should be clearly emphasised that in this article, however, the research does not focus on problems related to well-being on singular forms, such as freelancers (e.g., van der Zwan, et al., 2020). It investigates whether the full-time employed are willing to accept AFE (without external coercion) with specific well-being and whether this acceptance gives them benefits that respondents attached to the traditional form of relationship do not have. Therefore, the adopted research scheme requires a different approach to well-being. An answer is being sought to the question of whether full-time employees are able to accept a change in employment rules from traditional to transactional, i.e., AFE, without situational or economic coercion. That is why, in the research presented in this article, one of the most popular concepts of well-being by Ryff (1989, after: Karaś et al., 2017) was adopted. In the original, it contains six dimensions. For the purposes of this study, only the environmental mastery scale was used, understood as "a sense of agency, competence, as well as the ability to transform the environment, according to one's needs and values, coping with complex environmental conditions. Taking up the opportunities that life brings and actively participating in the individual's environment" (Karaś et al., 2017, p. 817).

Another variable taken into account in the presented research was diagnosed according to N. De Cuyper et al. (2008). In their view, employability refers to an individual's ability to cope with changes and transitions in the labour market associated with job loss. It is an individual's perception and assessment of their ability to gain

employment. N. De Cuyper et al. (2008) showed that people of high employability were less affected by job insecurity. This paper answers the question of whether people who accept AFE achieve higher employability and thus lower job insecurity. It is worth emphasising that this is posing the problem in a rather reversed way. Usually, analyses and studies indicate a high level of job insecurity of people employed in atypical forms.

Hypotheses and Research Scheme

In the adopted approach, acceptance of AFE is related to the assumption of the declarative full-time employees' readiness to providing their services in this way. The possibility of choosing forms of employment is particularly important for employees aged 18–24 (Bąk-Grabowska et al., 2022). This is also referred to in the research on the knowledge and recognition of AFE contained in the Report of the Labour Office in Łódź (2014).

So, the following research hypotheses have been formulated and presented below.

Hypothesis 1

A high acceptance of AFE (readiness to providing one's services) is associated with lower job insecurity and higher employability and well-being.

Hypothesis 2

A high acceptance of full-time work is associated with higher job insecurity and lower employability and lower well-being. In addition, the aim of the presented research, apart from the previously mentioned aims, is to search for determinants of the acceptance of atypical forms of employment. This is still quite a rare problem in published research results. Therefore, the importance of the Big Five traits in professional development was taken into account. Personality traits have been found to be a predictor of: employment instability (Wille et al., 2010); the intensity of job search activities (Pavani et al., 2021); and career change and employability decisions (de Vos et al., 2021). Moreover, career exploration correlates negatively with neuroticism, but positively with openness to experience, extraversion, agreeableness, and conscientiousness (Li, Guan et al., 2015). The strongest relationship with job change, to which AFE may refer, was found in the case of agreeableness and openness (Wille et al., 2010).

For this purpose, the assumption about the importance of personality based on the Big Five concept was made.

Hypothesis 3

There is a relationship between the Big Five's personality traits and acceptance of AFE.

Also, the following controlled variables were taken into account: age; gender; education; job position – managerial vs. non-managerial; and job category – public (administration) vs. private sector. That is why hypothesis 4 and related specific hypotheses were formulated.

Hypothesis 4

There is a relationship between acceptance of AFE and age, gender, education, employment in the public (administration) vs. private sector, and employment in the managerial vs. non-managerial position. The presented research scheme also takes into account the importance of age. Research indicates that students are more likely to work in atypical forms, but this tendency decreases with age (Green et al., 2017).

Hypothesis 4a

The level of acceptance of AFE decreases with age. The next research problem is the importance of gender. Some studies point to flexible working, particularly valued by women, to accommodate the demands of family or mothers to maintain working hours after childbirth (Chung et al., 2018; Fuller et al., 2018).

Research on gender differences points to inequalities and directions of changes worsening the situation of women in the labour market in the context of AFE (European Parliament 2020; Menendez-Espinai et al., 2020). However, it should be clearly emphasised that the surveyed respondents are full-time employees who voluntarily accept AFE and who are not influenced by external factors such as family situation.

Hypothesis 4b

There is a relationship between gender and the acceptance of atypical forms of employment.

It has also been evidenced that the individuals with higher education are less likely to work in atypical forms (Sobocka-Szczapa, 2015).

Hypothesis 4c

There is a relationship between level of education and the acceptance of atypical forms of employment. R. Kattenbach et al. (2023) indicated

that people in managerial positions demonstrate specific patterns of professional change, which is related to forms of employment. Therefore, in the presented study, the authors controlled whether a given person is employed in a managerial position when leading a team of employees. Thus, the study did not include highly qualified specialists, which may be taken into account in future studies.

Hypothesis 4d

A higher level of acceptance of atypical jobs is associated with managerial job positions.

Research on AFE also takes into account the differences between the private and public sectors (Morgan et al., 2000). B. Keller et al. (2015) demonstrated the differences in terms of their development and scope. Therefore, in the present study, this variable was controlled.

Hypothesis 4e

A low level of atypical acceptance is associated with the public (administration) and private sector.

Verification of the above hypotheses was carried out according to the quantitative research scheme. The regression analyses were carried out in two contrasting groups, i.e., those accepting atypical forms, and those accepting full-time employment only. The division was made on the basis of the assumptions of the concept of a relational psychological contract (traditional, long-term employment) and a transactional contract (short-term employment, which is manifested in atypical forms of employment) (Pawłowska, 2022). On the basis of this, an original quantitative indicator has been constructed containing items classifying people into a given group. At the same time, the respondents' preferences were diagnosed collectively towards atypical employment and without their detailed specification.

Research Methodology and Diagnostic Tools

A quantitative CAWI study was conducted on a sample of Polish full-time employees and involved N = 543 respondents, of whom 277 (51%) were women, and 266 (49%) were men. Their age ranged from 18 to 58 years, with mean $M = 38.72$ and standard deviation $SD = 10.975$ [$M = 39.49$ ($SD = 11.29$) for women and $M = 37.92$ ($SD = 10.59$) for men]. Table 1 below shows the characteristics of the sample.

Table 1. Sample Characteristics (N = 543)

Variable	Categories	All		Women		Men	
		(N = 543)		(*n* = 277)		(*n* = 266)	
		n	%	*n*	%	*n*	%
Age	18–24	68	12.5	34	12.3	34	12.8
	25–34	151	27.8	72	26.0	79	29.7
	35–44	131	24.1	61	22.0	70	26.3
	45–54	147	27.1	77	27.8	70	26.3
	55 or more	46	8.5	33	11.9	13.0	4.9
Place of residence	Village	225	41.4	103	37.2	122	45.9
	City up to 20,000 residents	64	11.8	32	11.6	32	12.0
	City of 20,000 to 100,000 residents	95	17.5	51	18.4	44	16.5
	City of 100,000 to 500,000 residents	99	18.2	56	20.2	43	16.2
	City of 500,000 or more residents	60	11.0	35	12.6	25	9.4
Education	Primary or basic educational	47	8.7	17	6.1	30	11.3
	Secondary	215	39.6	108	39.0	107	40.2
	Tertiary or higher	279	51.4	152	54.9	127	47.7
	Other	2	0.4			2	0.8
Job position	Managerial	113	0.2	57	20.6	56	21.1
	Non-managerial	430	0.8	220	79.4	210	78.9
Job category	Administration	161	0.3	98	35.4	63	23.7
	Outside administration	382	0.7	179	64.6	203	76.3
Company size (max number of employees)	Micro (up to 10)	86	0.2	58	20.9	28	10.5
	Small (up to 50)	133	0.2	63	22.7	70	26.3
	Medium (up to 250)	138	0.3	71	25.6	67	25.2
	Large (over 250)	186	34.3	85	30.7	101	38.0

Source: the author's own studies.

In the questionnaire, the respondents evaluated their agreement with the statements on a five-point Likert scale (for the Big Five, it was on a seven-point Likert scale).

The acceptance of AFE was measured using a proprietary questionnaire referring to the following AFE: freelancer (five items); job sharing (one item); employee sharing (one item); remote (one item); and platform (two items) – Cronbach's Alf 0.78. The different number of items is due to the fact that the diagnostic items included in the acceptance rate referred to the formal

definitions and complexity of individual atypical forms in accordance with the guidelines contained in their classification as described in the initial part of this article (Berezka, 2012; Eurofound Report after: Mockałło et al., 2022). Thus, the time and place of work, the forms of an employee's relationship with the employer(s) (e.g., B2B), the scope of work, unconventional working hours, use of ICT, etc., were taken into account. Reference was also made to the assumptions of the concept of the psychological contract (Pawłowska, 2022), as in the case of the next variable.

The preference for full-time work (the traditional form of employment relations) was diagnosed using the author's scale including three items from Cronbach's Alpha 0.6. It involves the preference to have only one employer and being bound by a permanent employment contract with them for life. In accordance with the explanatory justification set out in the previous chapter, the well-being variable was diagnosed with a single Environmental Mastery Scale (five items, Cronbach's Alf 0.72) of the Ryff questionnaire (1989, after: Karaś, Cieciuch, 2017).

The level of external employability was determined on the basis of three items of the author's scale (Cronbach's Alpha 0.66) (Pawłowska, 2022).

The feeling of job insecurity was measured by one item. The respondents assessed the level of job insecurity on a five-point Likert scale to what extent they agreed with the statement: "I'm afraid of losing my job".

To diagnose the Big Five personality, the reduced TIPI (Sorokowska et al., 2014) questionnaire was used, diagnosing the following scales: openness; agreeableness; conscientiousness; emotional stability; and extraversion. The last two scales have Cronbach's Alf above 0.6. The reliability of the remaining scales is so low that it suggests the use of another diagnostic tool in the future.

The following variables were controlled: age; gender; job position (managerial vs. non-managerial); and job category (public/administration vs. private sector – respondents had only these two options from which to choose).

Analytical Approach

First, the means, standard deviations, skewness, kurtosis, and correlations among the variables of interest were computed (Table 2). Subsequently, multiple hierarchical regression models were used to evaluate the degree to which independent variables (selected through a stepwise method) justify the variability in the outcomes of two dependent variables separately: a) the acceptance of AFE; and b) preferences for full-time work. The models include control variables, namely, gender, age

(in years), education, position, and job category (selected via the entry method). The obtained final solutions are presented in the article.

The analyses were conducted using IBM SPSS 29.0 software.

Research Results

Table 2 shows the descriptive statistics and correlations of all measures included in the analysis. The skewness of the variables varied between -0.53 and 0.26, and the kurtosis for the majority of them ranged from -0.73 to 0.89. These findings indicate a normal distribution for these variables. However, openness to experience and external employability attained a kurtosis value exceeding 1. It suggests a notable concentration of results around the mean and the presence of outliers for these specific variables.

Pearson's r correlation analysis revealed that, on the one hand, one's acceptance of AFE exhibited significant and positive correlations with external employability, openness to experience, and fear of losing a job. On the other hand, it demonstrated a significant and negative correlation with well-being and conscientiousness.

The preference for full-time work significantly and positively correlates with extraversion, conscientiousness, emotional stability, and agreeableness.

Table 2. Descriptive Statistics and Pearson's R Correlation Analysis of the Variables of Interest (N = 543)

Variable		*M*	*SD*	*S*	*K*	1	2	3	4	5	6	7	8	9
1	AFE	39.33	7.19	-0.23	0.89									
2	Job insecurity	2.81	1.05	-0.02	-0.73	.11*								
3	Ex. Emp.	9.69	2.03	-0.11	1.04	.30***	-.04							
4	Well-being	17.19	3.32	0.20	0.28	-.12**	-.32***	.11**						
5	Extraversion	9.36	2.78	-0.24	-0.30	-.03	-.15***	.16***	.47***					
6	Agreeableness	10.15	2.21	-0.13	-0.48	-.06	-.12**	.04	.40***	.44***				
7	Conscientiousness	10.76	2.48	-0.53	-0.23	-.09*	-.18***	.15***	.51***	.43***	.49***			
8	Em. Stab.	8.71	2.72	0.01	-0.26	-.05	-.19***	.18***	.48***	.55***	.30***	.30***		
9	Openness	8.73	1.84	0.26	1.34	.22***	-.07	.20***	.27***	.36***	.25***	.20***	.28***	
10	Full-time work	9.85	2.27	-0.17	0.57	-.46***	.08	-.02	.08	.15***	.09*	.14***	.11*	-.08

Note: AFE – Acceptance of atypical forms of employment, *Ex. Emp.* – External employability, *Em. Stab.* – Emotional Stability. *** $p < 0{,}001$; ** $p < 0{,}01$; * $p < 0{,}05$.

Source: the author's own studies.

In the second step, regression hierarchical models were conducted separately for both a) acceptance of AFE, and b) preferences for full-time work. The results are presented in Tables 3 and 4.

Table 3. Results of Regression Analysis Predicting Acceptance of Atypical Forms of Employment

Predictor	β	*t*	*p*
Step 1			
Constant		24.01	< .001
Gender (ref. Woman)	**0.12**	**2.94**	**.003**
Age	**-0.22**	**-5.31**	**< .001**
Education (ref. Primary or basic education)	0.01	0.14	.890
Job position (ref. Managerial)	**-0.10**	**-2.31**	**.021**
Job category (ref. Administration)	-0.04	-0.99	.323
R^2_{adj}	.068		
F	8.88***		
Final step			
Constant		13.18	< .001
Gender (ref. Woman)	**0.11**	**2.93**	**.004**
Age	**-0.19**	**-4.68**	**< .001**
Education (ref. Primary or basic education)	0.00	-0.12	.906
Job position (ref. Managerial)	-0.05	-1.23	.218
Job category (ref. Administration)	-0.05	-1.16	.248
External employability	**0.25**	**6.12**	**< .001**
Openness	**0.23**	**5.66**	**< .001**
Well-being	**-0.18**	**-4.30**	**< .001**
R^2_{adj}	.196		
F	17.50***		

Note: Significant predictors are in bold font. *** $p < 0{,}001$.
Source: the author's own studies.

In the first step of Model 1, the overall regression was significant, $F(5; 537) = 8.88$; $p < .001$, and the predictors explained 6,8% of the variance in acceptance of atypical forms of employment. The significant control variables were: gender ($\beta = .12$; $p < .01$); age ($\beta = -.22$; $p < .001$); and job position ($\beta = -.10$; $p < .05$). It means that men achieve higher results in their acceptance of AFE than women. In turn, with age, acceptance decreases. Moreover, people in non-managerial positions exhibit a lower acceptance of AFE than those working in managerial positions.

In the final model [$F(5; 547) = 17.50$; $p < .001$], among all the predictors included in the analysis, the following were found to be significant: external employability ($\beta = .25$, $p < .001$); openness to experience ($\beta = .23$, $p < .001$); and well-being ($\beta = -.18$, $p < 0.001$). It implies that higher levels of readiness for external employability and greater openness to experience are associated with increased acceptance of atypical forms of employment. Conversely, lower levels of well-being are associated

with higher acceptance. The model explained 19.6% of the variance in acceptance of atypical forms of employment.

Table 4. Results of Regression Analysis Predicting Preferences for Full-Time Work

Predictor	β	*t*	*p*
Step 1			
Constant		13.98	< .001
Gender (ref. Woman)	0.03	0.66	0.513
Age	**0.19**	**4.46**	**< .001**
Education (ref. Primary or basic education)	0.01	0.20	0.844
Job position (ref. Managerial)	0.00	-0.08	0.937
Job category (ref. Administration)	**-0.09**	**-2.13**	**0.034**
Final step			
Constant		9.24	< .001
Gender (ref. Woman)	0.04	0.93	0.355
Age	**0.16**	**3.69**	**< .001**
Education (ref. Primary or basic education)	0.00	0.11	0.911
Job position (ref. Managerial)	-0.01	-0.12	0.904
Job category (ref. Administration)	**-0.09**	**-2.20**	**0.028**
conscientiousness	**0.11**	**2.32**	**0.021**
Openness	**-0.17**	**-3.84**	**< .001**
Extraversion	**0.15**	**2.98**	**0.003**
Job insecurity	**0.10**	**2.39**	**0.017**

Note: Significant predictors are in bold font. *** p < 0,001
Source: the author's own studies.

The first step in the analysis of model 2 also was statistically significant, $F(5; 537) = 5.10; p < .001$, explaining 3.6% of the variability in preferences for full-time work. Statistically significant control variables were age ($\beta = .19, p < .001$), and place of employment ($\beta = -.09, p < .05$). It turns out that the preference for full-time work increases with age. Additionally, people employed in administration have stronger preferences for full-time work than those working in the private sector.

The final model included four predictors: the fear of losing a job ($\beta = .10, p < .05$); extraversion ($\beta = .15, p < .01$); conscientiousness ($\beta = .11, p < .05$); and openness to experience ($\beta = -.17, p < .001$), explaining 8.3% of the variance in preferences for full-time work [$F(95; 533) = 6.48; p < .001$]. It means that a greater fear of losing a job is associated with a heightened preference for full-time work. Additionally, that preference increases with higher levels of extraversion and conscientiousness.

Conversely, in the case of openness to experience, the pattern is reversed; the higher the level, the lower the preference for full-time work.

In conclusion, hypothesis 1 was partially confirmed. A high acceptance of AFE is associated with higher employability, but lower well-being. No significant association with lower job insecurity has been established. Hypothesis 2 was also partially confirmed. A high acceptance of full-time work is associated with higher job insecurity, and the relationship with external employability and well-being in the regression model turned out to be insignificant. In the case of hypothesis 3, a high acceptance of AFE is associated with high openness, and high acceptance of full-time work with low openness, and higher extraversion and conscientiousness. As part of the verification of hypothesis 4, it was determined that people with a high acceptance of AFE are younger men in managerial job positions working in the private sector. A high acceptance of full-time employment increases with the age of employees in administration. The relationship with education is statistically insignificant.

Research Result Discussion, Limitations, and Directions for Further Research

Answering the research questions formulated in this article, it should be stated that, as expected, the main benefit obtained by people accepting AFE is higher employability, which, according to many other studies (e.g., Pawłowska, 2022) allows us to predict that those people will function better in the new transactional rules of the labour market. On the other hand, the low level of well-being is interesting, which, according to the operationalisation, refers to a sense of agency. Therefore, it can be assumed that this is an attitude of reactive reaction to such job offers and results from the feeling that they cannot intentionally create their professional careers. This should be verified in the future, taking into account, *inter alia*, the link identified by S.P. da Motta Veig et al., (2018), that as employment self-efficacy increased, the intensity of job searches subsequently decreased. It is also worth noting that job insecurity turned out to be statistically insignificant, which is surprising since it is often associated with AFE in research. Perhaps this study group is internally diverse and requires in-depth analysis.

The above remark is particularly relevant to the next study result. Namely, the respondents from the second group recorded a high level of job insecurity, which may indicate their lower level of adaptation to the rules of the modern labour market, and yet they accept traditional employment. The question arises to the reason why they do not accept

AFE despite this. It is probably also worth looking for other causes in in-depth qualitative research. Perhaps this is explained by the fact that the high openness of the Big Five turned out to be an important determinant of the acceptance of AFE. Such people show cognitive curiosity and a tolerance for novelty. This is confirmed by the fact that people who prefer full-time employment are characterised by a low level of openness, which means conservatism, attachment to known and accepted solutions, and conventionality (Zawadzki et al., 2007). This is consistent with previous studies of Wille et al. (2010), who showed that changes in work are related to the Big Five's dimension of openness.

The presented results of the study also found that people in managerial positions in the private sector have a high level of AFE. Therefore, it can be assumed that private sector rules presumably provide patterns of behaviour that support transactional employment rules. Perhaps this is the result of some kind of professional socialisation. It is worth subjecting it to further research in order to use AFE in AFE's popularisation, especially taking into account the different formal and legal solutions in individual EU countries.

It also turned out that the acceptance of AFE decreases with age, which is consistent with the research of D. Bąk-Grabowska et al. (2022), but education and gender are not statistically significant. Although women, due to their social role, and according to research (Fuller et al., 2018), should be more interested in AFE. In light of the presented research, it is most likely different when they have the opportunity to choose and are not forced by external circumstances. This problem requires a deeper analysis in the future, and should probably be qualitative in nature.

The lack of importance of education is a different result from previously published studies (Green et al., 2017; Grabowska et al., 2022; Sobocka-Szczapa, 2015). It cannot be ruled out that this is a signal of new trends in the labour market, where the role of education level is changing. Of course, this thesis should be verified in the future, preferably in longitudinal studies.

It should be noted that the main limitation of drawing conclusions based on the above results obtained is the fact that they concern respondents functioning in the realities of the Polish labour market and legal regulations. It would be worthwhile to compare these results with other European Union countries, as social and legal arrangements may differ (Aloisi, 2022; S. Gialis et al., 2017). However, the relationship between acceptance of AFE and personality to a high degree may be universal, as confirmed by other studies on the professional development of the individual (Wille et al., 2010). Other limitations of the survey results relate to the quantitative nature of the survey and the possible

subjectivity of respondents' responses, the need for social approval, and their potentially low level of self-reflection. It would also be advisable to use more advanced statistical analyses, e.g., structural models.

An important direction of research for the future is to check whether there are differences in the acceptance of particular atypical forms, or whether it is a general attitude of openness. Other groups could be included in research, such as highly-qualified IT professionals with a special position on the labour market.

In addition, it is worth checking how to promote AFE among employees and match it to their personality predispositions. The legal risks that may arise from this should be addressed, but more emphasis could be placed on the measurable benefits that these forms provide to employees (Berezka, 2012).

Conclusions and Recommendations

The situation on the labour market and the ongoing economic and technological changes, not only at the EU level, but also at the global level, require the development of new solutions that support pro-efficiency relations between employees and employers, bringing forth benefits to both parties.

The presented study shows that, among the respondent employees, there are individuals, especially at a younger age, potentially voluntarily accepting AFE, despite full-time employment, which gives them higher employability. However, there are indications that their well-being, as a sense of agency in creating this professional situation, is the result of a passive attitude.

There is also a second group of employees who, despite high job insecurity, are still attached to traditional, permanent employment and long-term relationships with their employers. This does not result in employability, which makes it difficult to function efficiently in the transactional rules of the modern labour market. It has been confirmed that this is due to their personality limitations, which poses a challenge for the development of employment policy in individual EU countries, where, in addition to the above-mentioned psychological barriers, there are also formal and legal restrictions to varying degrees. However, it is important to establish in the presented research that it is not only employers benefit from AFE, but employees also. Despite the many drawbacks of these solutions, they allow for a more efficient shaping of their mutual cooperation. The problem as regards people's acceptance of AFE is very important because the number of people working in

this form is increasing. In Poland, by 2025, about one million people will be employed in so-called "giggers", or, the gig economy (wei.org.pl, 2022). This group should be supported in and guided towards being open to AFE, as flexibility is an irreversible process that prevents unemployment and maladjustment to the labour market (Dubel, 2020). Thanks to this, the effect formulated at the beginning of the article will be achieved in the form of effective cooperation between the employee and the employer.

Finally, the importance of geopolitical processes cannot be overlooked. Gomółka et al. (2023) draw attention to the importance of workers from Ukraine and the phenomenon of emigration in general, which will affect the formation of employment forms. Therefore, the article refers to other interesting threads that cannot be included due to its volume limitations.

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Financial Inclusion in Smart Cities in the European Union: The Role of Marketplaces and Financial Technology

Abstract

This study investigates the role of marketplaces and financial technology (fintech) in enhancing financial inclusion within the smart cities of the European Union (EU). Fintech, defined as the convergence of finance and technology, has been identified as a significant factor influencing financial inclusion. The research aims to determine how fintech can support the sustainable and balanced development goals set by the United Nations Sustainable Development Goals (UN SDGs) through the development of technology infrastructure within the smart city. The literature review provides a foundational understanding of financial inclusion and smart cities. This is followed by a comparative analysis using secondary data to examine the importance of fintech for existing smart cities in the EU. Our findings indicate that fintech substantially enhances financial inclusion in these urban settings. The social impacts observed include: reduced poverty levels, improved financial literacy, expanded access to financial services, and increased interactions between individuals and financial service providers. This study contributes to a deeper understanding of the relationship between fintech, marketplaces, and financial inclusion in the context of the EU's smart cities.

Keywords: Smart City, Financial Inclusion, Marketplaces, Fintech, Financial Services

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Financial Inclusion, Smart Cities, and UN SDGs – A Conceptual Framework From the EU Perspective

The principles of financial inclusion and smart cities, although seemingly disparate, are intricately interconnected. Financial inclusion refers to the systematic effort to ensure the general availability of reasonably priced and easily accessible financial services to all individuals, whereas smart cities are urban areas that leverage technological advancements to enhance the overall well-being and living standards of their inhabitants (Aryeetey, Chijor, 2022). As time has progressed, the importance of financial inclusion has become more widely acknowledged. It is seen as a crucial factor in stimulating economic growth, lessening inequality, and combating poverty. This recognition highlights the essential role that accessible financial services play in creating a more equitable and prosperous society. (Bianco, Marconi, Romagnoli, Stacchini, 2022). The integration of financial inclusion initiatives is a linchpin in the development and proliferation of smart cities, serving as a bridge between advanced financial systems and urban advancement (Mohanty, Choppali, Kougianos, 2016). These initiatives introduce various mechanisms that could catalyze the progress of smart cities. Particularly, the burgeoning relationship between the fintech sector and financial inclusion represents a fundamental component of contemporary financial systems. This relationship is a multifaceted one, influencing a range of outcomes from economic growth to the democratization of financial services. M. Folwarski delineates the significant impacts of this dynamic, as summarized in Table 1, aligning closely with the main thesis by demonstrating how financial technology acts as a catalyst for both economic development and the inclusive expansion of smart city infrastructures.

Table 1. Variables and Concepts of Financial Inclusion

Variable/Concept	Significance	References
Economic Growth and Education	These are key determinants of financial inclusion.	Pickens et al., 2009; Allen et al., 2016; Dai-Won et al., 2018; Grohmann et al., 2018
Use of Digital Finance	Facilitates greater financial integration.	Malady, 2016
Digital Financial Inclusion	Offers banking access to underserved populations.	Peric, 2015
Digitization of Banking	Lowers service costs, promoting financial inclusion.	Milan, 2019; Alameda, 2020; Allen, 2012

Source: Folwarski, 2021.

Smart cities, viewed through a multi-dimensional lens, are more than just an aggregate of technological advancements; they are a synthesis of theory, tangible urban developments, and policy objectives (Lytras, Visvizi, 2018; Visvizi, Lytras, 2019). As unique entities and subjects of academic inquiry, smart cities are fertile grounds for research-informed policies. Definitions of smart cities vary among OECD countries and international organisations as well as the private sector, reflecting differing geopolitical contexts and specific concerns (see Table 2).

Table 2. Selected Definitions of "Smart Cities"

National Governments	International Organizations	The Private Sector
Denmark: An evolving concept initially focused on ICT for environmental and infrastructure efficiency, now expanded to welfare areas using data and digital platforms.	European Union: Efficiency in traditional networks and services through digital and telecommunication technologies.	Smart Cities Council: Data from embedded sensors is shared via smart systems and processed into valuable services.
Latvia: A strategic approach addressing challenges and enhancing competitiveness through resource-saving measures, efficient services, societal well-being, and smart development planning.	United Nations: Emphasizes opportunities from digitalization, clean energy, and innovative transport technologies for sustainable choices and growth.	IBM: Optimal use of interconnected information for better operation control and resource optimization.
Spain: A holistic approach using ICT for quality of life, accessibility, and sustainable development, with interactive citizen-city engagement.	Inter-American Development Bank: An innovative city using ICT to improve quality of life, efficiency, and competitiveness, while considering the needs of present and future generations.	Cisco: Scalable ICT solutions that enhance efficiency, reduce costs, and improve quality of life.
United Kingdom: A process by which cities become more liveable and resilient to respond quickly to challenges.		

Source: own research based on data from OECD (2020).

As aforementioned, according to the European Commission (2014), a smart city is an urban area where digital and telecommunication technologies enhance traditional networks and services, thereby elevating residents' quality of life and promoting economic growth. The burgeoning digital revolution in financial inclusion, propelled by the fintech-philanthropy-development nexus, offers opportunities to widen and monetize digital footprints but also raises concerns about the profiling of impoverished households (Gabor, 2017, p. 430). The use of Information

and Communication Technology (ICT) in urban areas can significantly and positively influence the lives of those residing in smart cities. (Lytras, Visvizi, 2018; Visvizi, Lytras, 2019). Financial inclusion is defined by the World Bank Group as when "individuals and businesses have access to useful and affordable financial products and services that meet their needs—transactions, payments, savings, credit and insurance—delivered responsibly and sustainably" (World Bank, 2018), possesses the capacity to contribute towards the realisation of the objective of eradicating extreme poverty and fostering shared prosperity. Moreover, it is intricately connected to a minimum of eight out of the seventeen UN SDGs (*United Nations Sustainable Development Goals*) namely: no poverty; zero hunger; good health and well-being; gender equality and women's empowerment; decent work; economic growth and full employment; industry, innovation and infrastructure; reduced inequalities; partnerships for the goals.[1]

Financial inclusion is at the centre of current global policy attention, driven e.g. by the G20, the World Bank and major development organizations (Arner, 2020). However, it is commonly observed that smart cities primarily focus on implementing initiatives that utilize digital innovation to enhance the efficiency of urban service delivery, thereby augmenting the overall competitiveness of a community. While the smart city concept continues to prioritise digital innovation, a crucial inquiry pertains to the extent to which investing in smart technology and digital advances enhances the welfare of individuals within the city (Masłoń-Oracz, Mazurewicz, p. 339). Despite Europe's advancements, there remains a gap in the full realization of smart city potential, which led the European Commission to amalgamate the "European Innovation Partnership on Smart Cities and Communities (EIP-SCC)" and the "Smart Cities Information System (SCIS)" into the Smart Cities Marketplace. The platform aims to unite cities, companies, SMEs, investors, banks, researchers, and many other smart city players with the common goal of improving the quality of life of citizens (European Commission, 2023).

[1] SDG 1 and SDG 9 encompass initiatives that aim to enhance financial inclusion through the provision of infrastructure. Notable examples of such infrastructure include MTN, M-Pesa, TenCent, and Alipay. SDG 8 is to promote sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all. One potential avenue for achieving this goal is using micropayments to small and medium-sized enterprises (SMEs), which can effectively permit remote payment of workers. SDG 10: Enhancing the Impact of the Digital Divide, SDG 5, and SDG 10 aim to facilitate the provision of financial services to women and marginalised communities.

The Potential of Smart City Marketplaces in Enhancing Financial Inclusion

The proposition that fintech enhances financial inclusion is widely acknowledged. However, the actual drivers of financial inclusion – such as education, financial literacy, digital literacy, technology acceptance, security concerns, GDP, along with other macro and microeconomic factors – warrant deeper examination within the context of marketplaces for smart cities. This nuanced approach could yield more substantial insights into how smart cities can harness these drivers to foster a more inclusive economic environment.

Smart cities are positioned to weave together marketplaces, fintech and financial inclusion within their strategic blueprint, paving the way for environments that are not merely technologically progressive but also characterized by fairness and sustainability. The Smart Cities Marketplace serves as a central hub for individuals and organisations seeking assistance and facing obstacles in financing Smart City solutions. Smart cities leverage embedded technologies, open data platforms, and artificial intelligence to enhance services, mitigate congestion, and foster the development of more sustainable trajectories. The platform aims to catalyse the convergence of intelligent initiatives from across European urban centres, transforming pioneering ideas into actionable results. It stands as a collaborative market where cities, authorities, businesses, and investors come together to share expertise, establish partnerships, and drive mutual progress.

This marketplace is more than a mere aggregation of opportunities; it's a conduit for resources vital for stakeholders invested in smart city solutions. It acts as a fulcrum for support and guidance, aiding those who encounter financial obstacles in the implementation of smart city innovations. Within this ecosystem, smart cities utilize technologies like IoT (Internet of Things), open data platforms, and AI to refine services, alleviate congestion, and chart more sustainable futures.

As a subset of this ecosystem, the smart city marketplace is also poised to make significant strides in advancing financial inclusion. By leveraging the power of fintech and the collaborative nature of the marketplace, smart cities can create a fertile ground for inclusive financial growth. This fusion of innovation and inclusivity is essential for the development of smart cities that are not only efficient and responsive but also equitable and financially accessible to all citizens.

Table 3 outlines various aspects of how smart cities can facilitate financial inclusion and their respective descriptions.

Table 3. The Potential of Smart Cities in Facilitating Financial Inclusion

Aspect of Smart Cities	Description
Leveraging technology for inclusion	Employing tech solutions to reach unbanked/underbanked individuals through mobile banking services and financial literacy training via community centres.
Collaboration with financial institutions	Partnering with financial entities to create novel financial products tailored to residents' needs, like specialised savings accounts for housing down payments.
Utilisation of data	Using empirical evidence to identify and address gaps in traditional banking access within different areas.
The prospective trajectory of financial inclusion	Essential for smart city development; requiring cooperation among governments, financial institutions and tech companies for equitable financial services.
Emergence of mobile banking and payments	Significantly increases access to financial services, especially in emerging economies with low access to traditional financial services.
Utilisation of data and analytics	Applies to creating custom financial products for marginalized groups by identifying barriers to financial inclusion.
Emergence of blockchain technology	Has the potential to revolutionize the financial sector with secure, transparent financial services, advancing financial inclusion.
Mutual reinforcement of financial inclusion and smart cities	Financial inclusion and smart cities enhance each other, aiming for a globally inclusive and equitable environment through collaborative efforts.

Source: own research based on data from CITYkeys indicators for smart city projects and smart cities (Bosch, 2017).

Marketplaces and financial technology have the potential to make significant contributions to the domain of financial inclusion. The interplay among smart cities, the marketplaces they foster, and the subsequent opportunities that arise – particularly in terms of financial inclusion – is multifaceted. At the heart of the smart city concept is the financial underpinning, embodied by contemporary banking systems, which dictates the scope of activities essential for the evolution of a smart city. These smart cities, in turn, give rise to vibrant marketplaces – often referred to as "smart markets" – and the array of opportunities they offer. When these opportunities are channelled through the lens of technology and finance, they pave the way for the emergence of financial technologies and the advancement of financial inclusion.

Financial Inclusion in Smart Cities Through Fintech Companies

The utilisation of financial technology holds promise in facilitating the advancement of financial inclusion within smart cities of the European Union (IMF, 2020). Nevertheless, it is imperative to acknowledge the

existence of some obstacles that must be overcome to effectively execute these endeavours. One of the primary concerns that must be addressed are the various challenges that arise in this context. The regulatory environment presents a significant hurdle for fintech companies working within the smart city domain, as they must navigate intricate regulatory frameworks and accommodate diverse regulatory demands across different European Union member states.

The provision of digital literacy skills and access to technology is crucial to enable individuals to effectively engage with fintech solutions, hence facilitating their involvement in financial inclusion activities.

Digital and financial exclusion are inextricably linked and must be tackled in tandem for true inclusivity. According to Eurostat (2021), a considerable number of over 13 million adults inside the European Union lack access to formal financial services. In certain regions within the EU, the proportion of individuals who do not have access to banking services exceeds 30%.

Here is the figure 1 comparing the number of unbanked adults aged 15 and above in various countries for the years 2017 and 2021. The blue bars represent the year 2017, and the red bars represent the year 2021.

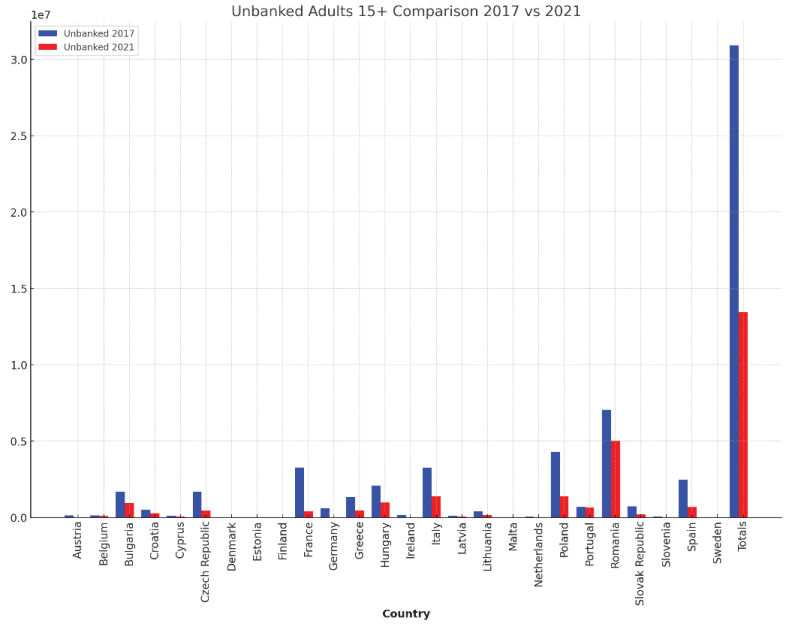

Figure 1. Financial Inclusion in EU Member States, Unbanked Adults

Sources: own calculation based on Global Findex – 2021 data on Luxembourg is missing in Global Findex so has been omitted, analysis by WSBI-ESBG.

The pandemic exacerbated these disparities, leading to an increased prevalence of digital poverty and exclusion. Furthermore, on a global scale, women constitute a majority, specifically 56 percent, of the adult population lacking access to formal banking services (Global Findex, 2021).

The aforementioned figures highlight the necessity of introducing inventive approaches to address the financial requirements of a substantial proportion of population, particularly focusing on women and marginalised groups throughout Europe, such as those with limited income.

There exists a compelling ethical argument for the imperative of equipping individuals with the necessary tools and fostering their success in the digital age. Moreover, individuals and enterprises that possess the appropriate access and competencies to engage in Europe's digital economy make substantial contributions to its economic growth and enhanced productivity.

In parallel, fintech enterprises are at the forefront of addressing this need, particularly for marginalized groups within the European Union. Recognizing the gaps in traditional banking access, fintech companies are deploying innovative strategies to bring financial products and services to those often left out.

Fintech enterprises are employing diverse strategies to deliver inventive financial products and services to marginalised groups within the European Union. Fintech companies are leveraging mobile technology to offer banking and payment services to individuals lacking access to conventional brick-and-mortar bank facilities. This holds particular significance in rural regions and among individuals with impairments. Fintech companies are employing peer-to-peer lending platforms to establish direct connections between borrowers and lenders. This alternative may prove advantageous for individuals with suboptimal credit scores or those encountering difficulties in securing a loan from a conventional financial institution. Microinsurance refers to the provision of insurance products by fintech businesses, specifically tailored to cater to the needs of individuals residing in low-income neighbourhoods, with a focus on affordability and accessibility. These items have the capacity to offer safeguarding measures against a diverse range of hazards, including natural calamities and agricultural yield deficiencies. Fintech companies are currently offering digital financial literacy materials to facilitate individuals' comprehension of financial products and services. This can assist them in making well-informed decisions on the management of their financial resources (Maurer, 2015).

Fintech companies are employing alternative data sources, such as mobile phone records and social media activity, to evaluate an individual's

creditworthiness. This can facilitate financial inclusion for those without a conventional credit history, enabling them to avail themselves of various financial services. Fintech enterprises are additionally engaging in innovation across other domains that are delivering inventive financial offerings and solutions to marginalised communities within the European Union. Banka Intesa Sanpaolo is an Italian banking institution that provides a range of digital financial literacy resources. The available materials encompass a variety of educational opportunities, such as online courses and workshops. Kreditech is a German financial technology enterprise that employs non-traditional data sources to evaluate the creditworthiness of individuals. Kreditech has established collaborative alliances with several European financial institutions to extend lending facilities to individuals lacking a conventional credit background.

The utilisation of data analytics by fintech organisations has facilitated the customization of customer service interactions. This has the potential to enhance consumer happiness and foster customer loyalty. The following are notable instances wherein fintech enterprises employ data analytics and artificial intelligence to enhance the accessibility and affordability of financial services within the European Union. Klarna is a Swedish financial technology enterprise that provides a range of payment alternatives, encompassing the buy now, pay later (BNPL) option. Klarna employs data analytics techniques to discern prospective clients who exhibit a high likelihood of expressing interest in BNPL offerings. Adyen is a Dutch financial technology enterprise that offers payment processing solutions to commercial entities. Adyen employs artificial intelligence technology to identify and mitigate instances of fraudulent activity. N26 is a financial institution based in Germany that leverages data analytics to tailor client service encounters. N26 utilises data analytics to foster the creation of novel financial products and services. Revolut is a prominent fintech enterprise headquartered in the United Kingdom, providing a diverse range of financial services encompassing banking, currency exchange, and investment. It employs artificial intelligence technology to streamline and automate the underwriting and risk assessment procedures.

The impact of this is that, with an excellent technology infrastructure, there is a great opportunity for innovation. The fintech sector thrives on it and provides products and services that allow for increased financial inclusion in Europe (see Table 3).[2]

[2] Based on 11 parameters, each of which was assigned a score out of 100 and was divided into three categories (tech infrastructure, green infrastructure, and tech jobs market). The following factors were considered: broadband download speeds, airport accessibility, number of IoT enterprises (plus the number of IoT companies per

Table 4. Technology Infrastructure (A Key Driver of Smart Cities and the Associated Marketplace) for Ten European Cities

#	City	Technology infrastructure	Green infrastructure	Tech job market	Score (out of 100)
1	London, UK	89	95	36	73.7
2	Amsterdam, Netherlands	86	88	27	66.9
3	Berlin, Germany	82	77	26	61.6
4	Paris, France	91	68	25	61.6
5	Lisbon, Portugal	78	64	29	56.9
6	Oslo, Norway	76	83	11	56.4
7	Budapest, Hungary	80	74	15	56.3
8	Dublin, Ireland	76	63	27	55.2
9	Madrid, Spain	87	54	22	54.3
10	Helsinki, Finland	77	62	19	52.4

Source: https://proptechos.com/smart-city-index/, based on OECD data.

The data analysis reveals a heterogeneous progression among these cities with respect to their technological infrastructure, green infrastructure, and technology job markets. Metropolitan areas such as London and Amsterdam demonstrate superior performance, exhibiting robust scores in both technological and ecological infrastructures. In contrast, cities like Oslo and Budapest manifest a differential developmental trajectory, especially in the realm of technology-related employment markets, indicating potential sectors for enhancement and strategic growth. This variation highlights the multifaceted nature of urban development and the need for tailored approaches in advancing smart city initiatives.

Conclusions

Smart city marketplaces and financial technology can play a significant role in promoting financial inclusion in smart cities. On the one hand they provide a platform for individuals and businesses to access financial services, while on the other fintech can offer innovative and cost-effective solutions for reaching underserved populations.

This is a viewpoint paper, devoid of primary data, and it was prepared by using the unstructured review of smart cities in the European Union

100,000 inhabitants), number of 5G network towers, the number of public-access EV charging stations (plus the number of public-access EV charging stations per 10,000 people), the amount of "green certified" buildings, the quantity of available tech positions. Source: https://proptechos.com/smart-city-index/, based on OECD data.

to present qualitatively the possible outcomes of relations between smart cities, marketplaces, fintech and financial inclusion.

The use of marketplaces and fintech can lead to increased financial literacy and capability. By providing access to financial education and tools, marketplaces and fintech can help individuals and businesses manage their finances better. Marketplaces and fintech can help reduce the cost of financial services. By eliminating intermediaries and streamlining processes, marketplaces and fintech can make financial services more affordable for everyone. They can also help create new opportunities for financial inclusion. Moreover, by targeting specific underserved populations, they can help reach people who have been traditionally excluded from the financial system. Their success in promoting financial inclusion will depend on several factors, including the availability of infrastructure, the regulatory environment, and the level of consumer adoption.

The paper examined the capacity of marketplaces and financial technology to facilitate financial inclusion within smart cities in the European Union. Marketplaces have the potential to facilitate access to financial services for marginalised communities inside the EU through many mechanisms, including the consolidation of demand and supply, cost reduction, and the provision of financial education. Fintech enterprises possess the capacity to contribute to the advancement of financial inclusion through the utilisation of data analytics and artificial intelligence AI to enhance the accessibility and affordability of financial services. The contribution of this paper is to show the impact of fintech on smart cities and, in turn, lead to more research and debate into areas such as:

- Case studies of successful financial inclusion initiatives in smart cities around the world.
- Evaluation of the fintech's impact on financial inclusion and social equity.
- Development of ethical and inclusive algorithms for financial services.
- Exploration of alternative models for funding and delivering financial services in smart cities.

Future research fields that should be considered include, but are not limited to:

1. Impact Assessment and Equity:

- Measure the actual impact of marketplaces and fintech on financial inclusion through longitudinal studies with diverse demographics in different smart cities to assess if these technologies genuinely reach unbanked and underbanked populations.

- Analyse the distributional implications. Research how the benefits and risks of these technologies are distributed across different socioeconomic groups, ethnicities, and genders. Identify and address potential biases and unintended consequences.
- Evaluate the effectiveness of interventions. Assess the impact of policy initiatives and regulations aimed at promoting inclusive financial services in smart cities.

2. Technological Innovation and User Behaviour:

- Explore emerging fintech solutions. Investigate the potential of blockchain, AI, and other innovative technologies to further expand financial access and affordability in smart city contexts.
- Understand user needs and barriers. Conduct surveys and interviews with target populations to understand their financial literacy, digital literacy, and trust in these technologies. Identify key barriers to adoption and develop user-centric solutions.

3. Regulatory and Policy Frameworks:

- Evaluate existing regulatory frameworks. Analyse how existing financial regulations affect the development and adoption of inclusive financial technologies in smart cities. Identify areas for improvement and recommend policy changes.
- Promote cross-border collaboration. Encourage collaboration between EU member states to develop harmonized regulations and standards for financial services in smart cities.

Research Approaches:

- Combined methods. Utilize a mix of quantitative and qualitative methods such as surveys, interviews, focus groups, and analysis of datasets from IT providers, public institutions, and financial institutions.
- Participatory research. Involve relevant stakeholders, including citizens, financial service providers, policymakers, and researchers, in co-designing and co-conducting research to ensure its relevance and effectiveness.
- Comparative studies. Compare and contrast the approaches and outcomes of different smart cities in the EU to identify best practices and transferable lessons.

By addressing these fields and employing diverse research approaches, we can gain a deeper understanding of the role of marketplaces and fintech in achieving financial inclusion in smart cities across the EU. This knowledge can inform the development of more effective policies, technologies, and business models to ensure that everyone benefits from the opportunities of the digital age.

The paper posits that the integration of marketplaces and fintech inside smart cities in the European Union can have a substantial impact on the advancement of financial inclusion. Nevertheless, it is imperative to acknowledge the existence of certain obstacles that require attention and resolution. One such problem involves guaranteeing that individuals possess the essential digital literacy competencies and adequate technological resources to utilise these proposed remedies proficiently. The use of marketplaces and fintech can lead to increased financial literacy and capability. By providing access to financial education and tools, marketplaces and fintech can help individuals and businesses better manage their finances. Through the identification and resolution of these aforementioned difficulties, as well as the facilitation of responsible digital financial inclusion projects, smart cities within the European Union have the potential to foster a society that is more inclusive and equitable for all individuals.

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An Identification of Trends in the Functioning of Organisations in the Context of Their Impact on the Level of Employment in Ukraine

Abstract

Unique knowledge, reinforced by organisational experience and combined with resources and technologies, forms the competence of organisations, thereby determining the possibility of market success. The need to ensure it in the context of influencing the employment level of a population shifts attention from external factors to the internal properties of organisations as a prerequisite for achieving high performance levels. The status of organisations of different business groups in terms of their impact on employment in Ukraine is defined in the following pages of this article. The inexpediency of considering the indicators of the number of organisations in Ukraine and the intensity of their creation as a factor of employment growth was substantiated, since, despite the absolute quantitative advantage of small organisations (95.2%), it is medium-sized organisations that occupy the leading positions in providing employment in Ukraine (47%). It is noted that the higher level of profitability of large and medium-sized organisations, as an indicator of financial success, can be associated with

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a wider list of available competencies, in particular, those that are part of the synergistic component of an organisation's competence and which provide advantages that are almost unreproducible by competitors, and thus, market leadership positions. The complexity of the development of such competencies among small businesses, which should focus on the competencies of a key component, is substantiated. Using the component will open access to new knowledge, experience, methods of managing resources, and business processes. The logical conclusion manifest itself in the importance of developing competent organisations capable of: achieving high financial results; creating jobs with a competitive level of pay; and contributing to the balance of the labour market. The identified disparities in labour supply and demand indicators exacerbate the problem of their balance along with ensuring productive employment, which is often caused by the professional and qualification mismatch of employees with employers' current requirements and their incompetence in certain areas of activity. This is the reason for directing research to find ways to develop competent organisations capable of attracting employees with a wide range of knowledge, a willingness to learn, and who are able to adapt to changes in exchange for decent remuneration. A distinctive feature of this study is the consideration of the trends of the functioning of organisations not only from the standpoint of influence on the level of employment in Ukraine, but also as evidence of the manifestation of a certain level of competence, which will become the basis for the development of its components in order to ensure the effective operation of organisations on the market.

Keywords: Employment, Competent Organisation, Competence, Efficiency

Introduction

Russia's military invasion of Ukraine, in addition to the inherently dire consequences for Ukrainian society and economy, provoked the activation of European Integration Processes (EIP). The need to ensure an accelerated development of Ukraine's economy on the way to the country's accession to the European space has given rise to the need to research Ukrainian organisations as the economy's key elements. An analysis of performance indicators, along with trends in creation and development in the context of the impact on the efficiency of the economy, improves the understanding of the role of business organisations in today's conditions. The market success of organisations with a logical increase in the number of employed people and a decrease in the number of unemployed people is considered an indicator of a high level of organisations' competence and

a factor in the transition of the country's economy to a higher quality state (Gruzina, 2022). EIP forms new requirements for organisations, focusing on internal properties in addition to external factors. The authors, in this sense, refer to unique characteristics, knowledge, and experience that, combined with resources and technologies, ensure competitiveness, thereby accelerating the adaptation and integration of Ukraine into the European space. The task of developing competent organisations capable of competing with experienced players is a priority.

The importance of this type of research is confirmed by the large number of works devoted to determining the prospects of Ukraine's integration into the European space (Kosach et al., 2020; Ilyash et al., 2022; Marchenko et al., 2021), underlining the importance of the results of organisations' activities in the development of the economy (Fesenko et al., 2020). Russia's military aggression against Ukraine, along with the intensification of EIP, has led to a partial loss of relevance as regards the results of previous studies and forecasts. The impossibility of conducting an objective assessment of the losses of the Ukrainian economy due to the incompleteness of the collected data due to the occupation of territories or military operations, complicates the formulation of conclusions. But the determination of past trends in the functioning of the economy, an awareness of their causes and consequences, and made adjustments taking into account current events and processes are the basis for finding ways to ensure the competence and adaptation of Ukrainian organisations in the European Marketplace (EM) and an eventual, post-war Ukrainian market.

The State of Problem-Based Research

The purpose of this work was to study the trends in the functioning of organisations and their profitability as evidence of a certain level of competence in the market, from the standpoint of influence on the level of employment in Ukraine. The working hypotheses of the study are as follows: 1) the quantitative advantage of organisations provides the greatest influence on the formation of the employment level of the population; and 2) higher results of the functioning of large and medium-sized organisations, which are associated with a wider list of available competencies, are a priority factor for ensuring employment in Ukraine.

Scientists consider the root cause of changes in the development of the economy to be problems at the organisation level, devoting their time to analysing those problems, and to assessing the impact of activity results on the economy, which determines its current state. But some authors

have limited themselves to research in the field of small entrepreneurship (Marchenko et al., 2021), with others being more interested in the activities of state organisations (Prohorov et al., 2021), and the rest investigating the financial component of state organisations' activity (Sokolova et al., 2019; Fesenko et al., 2020). Therefore, the formulated conclusions are valid only for a limited sphere of scientific interests. The problem of the innovative development of the national economy and the role of the innovative position of Ukrainian organisations in its provision have been discussed (Zhalilo et al., 2016; Ilyash et al., 2022; Kholiavko et al., 2020). The intensification of the process of Ukraine's integration into the EU, the shortening of the planning period due to the dynamism of the environment, and the change in the direction and strength of the influence of various factors requires a review of strategies, which therefore requires additional research.

Scientists have focused their attention on the root cause of the acceleration of integration processes, by studying the conditions of the functioning of organisations that have been coloured by active military actions. Maksimov (2022) tried to identify the prospects for organisations, noting a rapid collapse – tying in with the beginning of the military invasion – of general business activity, and a decrease in the level of employment and an increase in unemployment in the country. This direction is supported in "How the Rear Works" (Samayeva, 2022), wherein the author investigates the capabilities of organisations in extremely difficult conditions to provide for military needs. The conclusions found in "In-betweenness and Migration Interdependence: Lessons from Georgia, Moldova, and Ukraine" (Blouchoutzi, 2023) are valuable, because by examining the dependence of the economies of Georgia, Moldova, and Ukraine in similar conflict conditions on money flows from Russia, and by analysing the number of migrants, the authors form the basis for forecasting trends in the development of the Ukrainian economy and the functioning of the labour market. The priority factors of negative influence appear in studies by Bencsik and Juhász (2023), who, investigating such factors' impact on the activities of organisations, shifted the focus of scientific research to the factor of technostress, which is not the only factor and should be considered in combination with other provocateurs of decreasing activity indicators. Siskawati et al. (2022) considered social investments to be important in the context of increasing the efficiency of enterprises in force majeure conditions and focused on the implementation of investor motivation systems. Gomółka et al. (2023) studied the problems of the labour market in Poland, based on the results of a survey of citizens of Ukraine.

The possibility that they will fill the gaps in the Polish labour market is a positive for unemployed Ukrainians, but it indicates problems in the activity of Ukrainian organisations, which may result in disparities in the state's labour market and its economy.

The number of works devoted to the importance of competent organisations in modern conditions, which, as a result of the development of individual competencies, ensure the achievement of high performance results in the market, is minimal. There are no studies focused on the development of organisations that are competent in an environment complicated by military operations and increased intensity of integration processes. This directed the scientific search to confirm the hypotheses as regards the priority influence of the results of organisations' activities and the trends of their creation and development as evidence of the achievement of a certain level of competence in the market on the formation of balanced employment in Ukraine.

Previous studies substantiated the difference in performance indicators of large, medium, and small businesses, which may be a consequence of differing levels of competence. Trends in GDP as an indication of economic performance, and the performance of organisations as an indicator of their competence, are identical. However, the intensity of changes in the indicators is different, which led to an additional analysis of the state and dynamics of employment and unemployment in relation to changes in the number of organisations and job supply in Ukraine. The prerequisite for an organisation's ability to create jobs with a competitive level of remuneration, which contributes to the balance of the labour market, is the growth of financial results. Therefore, it is important to evaluate the profitability of organisations which, in turn, allows us to draw conclusions about the level of their profitability, competence, and market success.

Research Methods and Material

The methodology of the research consists of the provisions of modern management, the works of leading scientists dedicated to identifying the prerequisites for the development of competent organisations, assessing the impact of the results of their activities on the efficiency of the national economy, and substantiating the need for state support of organisations as a factor in ensuring their competence in the context of an intensification of EIP.

The information base was made up of legislative and regulatory documents on the regulation of organisations' activities: data of the

State Statistics Service of Ukraine (SSSU) (2022); the World Bank; the Organisation for Economic Co-operation and Development (OECD) (the European Bank for Reconstruction and Development (EBRD), 2020); the results of international observations of the EBRD (EBRD, 2020; International Monetary Fund, 2019); statistical data from official websites of organisations (the International Monetary Fund, 2019; OECD National Accounts Statistics, 2017); materials of periodicals; and the results of the authors' own research.

Russia's aggression against Ukraine limited the possibility of obtaining reliable information, in particular from the occupied territories and territories of direct military operations, due to the inability to conduct a fully-fledged survey of the activities of Ukrainian organisations in 2022. The analysis was carried out on the basis of the data of 2021, which were the last data published in the official sources of the SSSU (2022).

The research results were obtained through statistical analysis, generalisation, and systematisation of information. An assessment of the dynamics of the number of organisations in the business sector in Ukraine was carried out by methods of grouping and comparative analysis. The identification of related trends in the number of employed persons by type of economic activity, split into large, medium, and small enterprises, was carried out using the method of systematic analysis and synthesis. Clarifying the areas of analysis of organisations' activities and forming a list of indicators and revealing their essence became possible thanks to the use of methods of content and logical analysis. The methods of systematic analysis and descriptive statistics have become useful for identifying the relationship between trends in the number of organisations and the number of unemployed people in Ukraine. The determining of the burden of the unemployed on each organisation, its relationship with the volume of offered vacancies, supplemented by an analysis of probable reasons for changes in indicators, was based on the use of the provisions of the structural-functional approach. The substantiation of the relationship between the unsatisfied demand for jobs in Ukraine and the discrepancy between the actual competence of employees with hard-and-soft-skills requirements was carried out using the methods of scientific induction and deduction. The distribution of organisations according to the availability of net profit became possible thanks to the use of methods of grouping and comparative analysis. The problem of visually presenting information was solved by using formalisation methods and graphic methods. The data processing necessary for the construction of charts and graphs was carried out using Microsoft Excel software, which simplified the perception of the analysis's results.

Results of the Research and Discussion

In Ukraine, the entrepreneurial sector of the economy is an important resource to fill the budget, a factor in the formation of the socio-demographic structure of the regions, and something which ensures the employment of the population (Maksimov, 2022; Melnik, Chemeris, 2017). Comparing the performance of state organisations and entrepreneurs, scientists note their lower profitability and lower income due to inefficient management (Prohorov et al., 2021; Morgulec, 2015; EBRD, 2020; International Monetary Fund, 2019). Private organisations are more profitable, and are efficient in their use of resources and more influential in the context of economic development and strengthening Ukraine's position on the EM. Therefore, the search for ways to ensure the successful functioning of organisations as a factor of economic growth is based on the results of an analysis of indicators of the socio-economic usefulness of business entities, which can be considered as an indicator of those entities' competence in today's environment.

The substantiation of this conclusion requires defining the concept of the "competence" of an organisation and outlining its difference from the concept of the "competency" of an organisation. Based on a monographic analysis, the author proves that a particular competency reflects the knowledge or skills of an organisation in a particular area of activity. A certain set of competencies provides the ability to carry out effective activities in general and solve urgent problems. When the level of manifestation of each competency and their combination is taken into account, which determines a certain behaviour of a given organisation in the market, it is possible to talk about the availability of organisational experience, knowledge, and skills in solving everyday issues and situations, i.e., to refer to its general competence. Competence can be defined as a set of organisational competencies, in particular, the level of their manifestation that ensures the achievement of results (goals) by an organisation in the form of activities, supplemented by dynamic organisational abilities to act effectively, adapt to market trends, and form competitive advantages. However, competencies that exceed the industry average are important for the successful functioning of an organisation. Modern competitors have the ability to quickly copy competencies, so an organisation's ability to keep those ceompetencies relevant and focus on increasing the level of overall competence becomes critical (Gruzina, 2022).

An important indicator of the competence of an organisation, regardless of its size, is the provision of jobs, which helps to reduce the

unemployment rate in a country (Antoniuk et al., 2017). Only small organisations (2.5%) demonstrated positive rates of increase in number until 2021, against the background of negative values of representatives of large and medium companies; -12.6% and -11.8%, respectively (SSSU, 2023). The simplification of business registration procedures and the introduction of new principles of simplified taxation became the impetus for this. But the trends were chaotic. A surge in business startups was observed in 2017 – 10.9%, with a sharp reduction in the following year by 5.8%, and reaching negative values in 2020; -1.8%, with 2021 supporting the downward trend in the number of small organisations. This is explained firstly by the stabilisation of the economy after the slowdown in the intensity of military operations in the East, which provoked the development of business, and secondly by the spread of the COVID-19 virus as the reason for the mass closure of small organisations. Russia's military invasion of Ukraine has made offering optimistic forecasts about the development of organisations impossible. Worsening trends are expected, despite the government's desire to support businesses.

The number of large and medium organisations, reflecting a slow growth trend, reaching 16.1% and 10.6% in 2019 respectively, did not withstand the impact of the global crisis caused by COVID-19, with large-sized business shrinking in 2020 by 1.2 % and medium-sized businesses shrinking by almost 1%. Such organisations are less flexible; it is difficult for them to adapt to changes in market conditions, to fluctuations in demand and to adapt to new situations. However, in 2021, there was an increase in the number of large-sized businesses by 19.1%, along with an increase in medium-sized businesses by 1.2%.

The status of Ukrainian organisations is confirmed by their influence on Ukraine's level of employment. The largest number of jobs is provided by medium organisations wherein the share of employees consistently exceeds the number of jobs in large and small businesses (Figure 1). The dynamics of the number of employees in large organisations tends to decrease, reflecting negative growth rates and a decrease in the share of employees by almost 7%. In medium-sized businesses, a decrease in the number of employees was observed in 2013–2015, which was connected with military actions. The growth of the indicator in 2019 (11.24%) is significant, however, the crisis of 2020 collapsed its value by almost 5%. Small businesses are more flexible and adaptable to change, but the situation is not better. The rate of decrease in the number of employed people, fluctuating annually around 10% (exception: 2014), slowed down during the analysed period (Kuharska et al., 2020; SSSU, 2023).

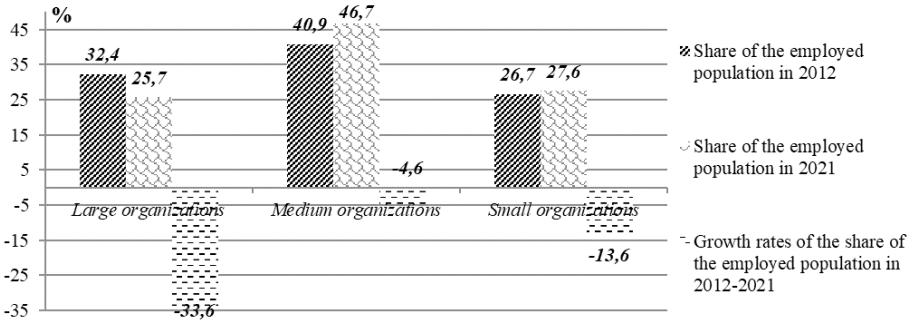


Figure 1. Dynamics of the Employed Population Share in Ukraine
Source: Kuharska et al., 2020; SSSU, 2023.

The largest number of employees, despite negative trends, remains in large and medium-sized organisations. This is traditional for the Ukrainian economy, wherein large and medium organisations represent the sphere of industry and agriculture, maintaining an excessively high number of employees with low performance and unsatisfactory level of remuneration (OECD, 2017). In the countries of the EU and the USA, it is significantly lower, fluctuating within 5% (in Ukraine it is over 70%).

The strategic goals of state policy are to ensure a high standard of living for the population and the proper conditions for the population's development. The problems of labour use are related to and are the leaders of socio-economic processes in the country. Balanced employment is a prerequisite for development, and negative changes in the structure, provoking an imbalance between the demographic situation and market needs, negatively affect the state of the Ukrainian economy. The problem of employment is studied in relation to the problem of unemployment, because achieving a balanced structure of it is possible on the basis of reducing its level by creating jobs in priority industries and curtailing unpromising ones. This will contribute to the employment of the population and the redistribution of the employed by spheres of labour activity, economic sectors, professions, and territories. The economy of Ukraine is characterised by the presence of: a surplus and a shortage of certain categories of workers; an increase in the number of people who do not work in their specialty, which provokes an increase in the scale of retraining of personnel and their approach to the scale of primary training; the growth of informal and secondary employment; and a high degree of social inequality (Chystokletov et al., 2020).

It is useful to analyse the dynamics of the number of unemployed people compared to the change in the number of organisations and jobs,

which is the basis for developing recommendations for the development of organisations capable of creating jobs, contributing to the balance of demand and supply, thereby ensuring productive employment. The dynamics of the rate of growth of the number of organisations and the number of the unemployed population are, however, unstable. Progress in 2013, 2015, 2018, and 2019, where the growth in the number of organisations contributed to the decrease in the number of unemployed people, was replaced by periods of decline in the number of organisations and a significant increase in the number of unemployed people (2014, 2020, 2021), but it is unclear as regards 2017, where the growth in the number of organisations by 10.41% led to the growth in the number of unemployed people by 1.18%, which calls into question the validity of the first hypothesis of the study (Figure 2).

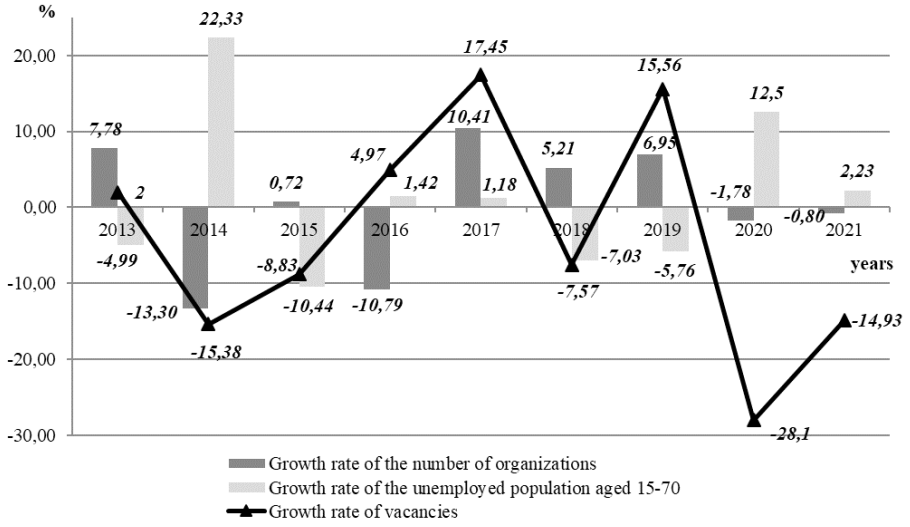


Figure 2. The Ratio of the Number of Organisations, Vacancies, and the Number of the Unemployed Population of Ukraine

Source: Economic profile of the region, community, cluster, 2022; Kuharska et al., 2020; SSSU, 2023.

Even a slight increase in the number of organisations can significantly reduce the level of unemployment, just as a reduction in their number provokes an increase in the number of unemployed people, and, fortunately, the growth rates in 2014 and 2020 are several times higher than the rate of reduction in the number of organisations. Unemployment has other causes, including, *inter alia*, voluntary dismissal in order to find better employment opportunities or disproportion in the development of labour

markets and educational services, but the main causes are the liquidation of organisations, the decline of production, and the excess of the supply of certain professions over demand (Zhalilo, 2016).

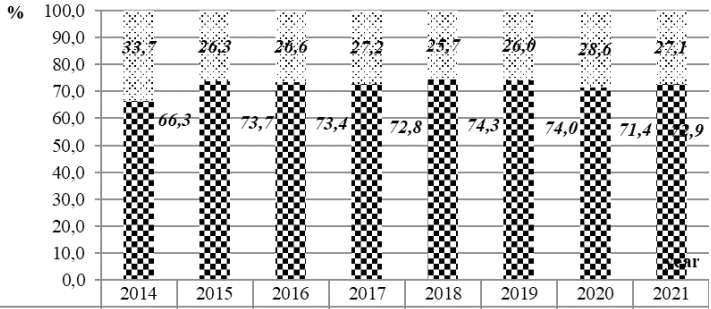
One of the problems with the labour market in Ukraine is the imbalance between the demand for and the supply of labour, caused by professional and qualification mismatches, which negatively affect the efficiency of the economy and inhibits the development of scientific and technological progress (STP). The dynamics of the rate of increase in the number of vacancies tends to decrease. The exception is 2017, where the growth rate reached 17.45%. If we supplement Figure 2 with the dynamics of the number of vacancies, the obvious consequences of the decrease in the number of organisations are a significant increase in the number of unemployed people and a reduction in the number of vacancies (Figure 2).

At the same time as there is an excess supply of labour in Ukraine, there is an unsatisfied demand for jobs due to the mismatch of the actual competence of employees with job requirements. The opinions of experts are, for the most part, pessimistic, which is connected with the decline of economic activity, i.e., the liquidation of organisations, the curtailment of production, and the decrease in demand on the labour market. The obvious reasons are related, in addition to the pandemic, to military conflicts; firstly, in 2014, there was the severing of economic ties with Russia, the loss of stable markets, material losses due to the destruction of property, and the need to transfer organisations to other territories, and then again, of course, in 2022, the consequences of which for the Ukrainian economy have been catastrophic. The state of small businesses is unfavourable – due to the crisis, employers are trying to optimise business processes by reducing staff and expanding the range of tasks for the remaining employees. Increased demand is predicted for competent employees with knowledge and skills in several specialties, who are ready to learn quickly, and who are able to adapt to new conditions and tasks (economic profile of the region, community, and cluster, 2022; Kuharska et al., 2020; SSSU, 2023).

The Ukrainian labour market shows an increase in the demand for labour due to the growth of the national economy and vice versa. The demand for qualified, competent employees is growing at a rapid rate. If we note that the Ukrainian market for them competes with an EM which offers higher wages, then the problem of the lack of a quality labour force, which requires the education of competent workers in Ukraine who are a component of the competence of organisations, becomes urgent. Considering the financial results of business activity as indirect evidence of the competence of organisations on the market, it is reasonable to analyse

profitability, which will, in turn, allow the conducting of an assessment of the ability of organisations to create jobs, thereby affecting the balance of the labour market. Due to the objective inability of the SSSU authorities to provide up-to-date information on the state of indicators, the analysis was carried out on the basis of data from 2012–2021, which is appropriate for confirming the trends of the progress or regression of the Ukrainian economy, and will allow one to study the trends of its development and forecast organisations' prospects.

Whatever goals an organisation sets, the growth of financial results is the equivalent of entrepreneurial success, and is evidence of a high level of competence in the market regardless of the type of business (Smentini et al., 2019). An important indicator of an organisation's financial success is profit, which actualises the task of analysing profit volumes and the trends of said organisation's change. It is expedient to characterise the profitability of Ukrainian organisations based on the availability of net profit from business activities (SSSU, 2023) (Figure 3).



	2014	2015	2016	2017	2018	2019	2020	2021
Share of unprofitable organizations	33,7	26,3	26,6	27,2	25,7	26,0	28,6	27,1
Share of profitable organizations	66,3	73,7	73,4	72,8	74,3	74,0	71,4	72,9

Figure 3. Distribution of Ukrainian Organisations by Availability of Net Profit (loss)

Source: SSSU, 2023.

The number of unprofitable organisations makes up almost a third of the total, which slows down the development of the economy, inhibits the renewal of labour resources, inhibits the introduction of new technologies, and also inhibits the achievements of STP. This has a negative impact on the ability of organisations to acquire competence, especially where the EM is concerned. The total share of profitable organisations in Ukraine had a growing trend until 2018, but began to gradually decrease in 2019 and more intensively so in 2020 (Figure 3). 2021 saw a slight improvement in the situation, causing the share of profit-making organisations to grow

by 1.5%. It is obvious that the number of profitable organisations exceeds loss-making organisations.

An analysis of the absolute rate of profitability shows more than a 20-fold growth in Ukraine during 2014–2021. 2013–2015 became critical, aa it was a time when the rates of organisations' profit growth were negative due to the destructive impact of aggressive military actions by Russia in the East of Ukraine, along with trade restrictions in 2014, and strict fiscal and monetary policy in 2015, the results of which Ukrainian organisations failed to compensate for with profits in the following years. Conclusions based on the results of organisations' activities in 2020 are disappointing; the consequences of the pandemic reduced net profit by 87% compared to the previous period. As for the contribution of organisations to the formation of profit in Ukraine, the best situation is experienced by large businesses, where the value of the indicator, despite chaotic change, experienced an almost-30-fold increase. Lower, but positive, are the results of medium organisations, which brought an 8-fold increase in profit. Small organisations are unprofitable throughout the analysed period, with the exception of 2018, 2019 and the particularly favourable 2021, when the amount of profit almost doubled the figure of 2019. Experts associate the distribution of profitable and loss-making organisations with greater opportunities for representatives of large and medium businesses to resist negative factors due to a high level of development of competencies that ensure sustainable competitive advantages in the market. An important bonus is significant state support, which helps representatives of these groups to demonstrate a higher level of resistance to external changes (Korbutiak et al., 2020; Kozlovskyi et al., 2019). There is an opinion about a wider list of competencies of large and medium organisations which form a synergistic component of competence. That is, essentially, the presence of unique knowledge, supported by organisational experience, combined with technologies and resources, the creation of advantages that cannot be reproduced by competitors, the determining of authority in business circles, and the ability to defend the adoption of necessary decisions and the support of organisational interests. This often provides such organisations with market leadership positions. This is almost unobtainable by representatives of small businesses, but for them there are prospects for increasing the level of competence by developing the competencies of a key component. The diversification of activities, cooperation with strategic partners, in addition to strengthening market positions all open access to new knowledge along with experience in achieving goals, methods of managing resources and business processes, creating prerequisites for acquiring competence, and successful activity in dynamic conditions.

In the future, the conducted analysis should be supplemented with the results of the research on the damage caused by Russia's military aggression against Ukraine. Regardless of expert assessments, there are obvious facts here – a large number of organisations were forced to stop work or evacuate to other regions, along with various actions which caused problems with logistics and a lack of raw materials, both having a negative impact on business efficiency. This led to many Ukrainians losing their jobs (Marchenko et al., 2021) and an increase in social tension. However, according to the Centre for Innovations Development and the Entrepreneurship and Export Promotion Office, Ukrainians appear to have the ability to adapt quickly, as evidenced by the number of registrations of new businesses in Ukraine (Marchenko et al., 2021).

Taking into account the regularities of the development of the European economy drew the authors' attention to the role of business sector organisations in ensuring countries' stable socio-economic state. The quantitative advantage of small organisations (95.2%) does not mean an advantage of their share in the volume of GDP, but they, unlike large businesses, demonstrate an increase in the share of the employed population and a slowdown in the negative dynamics of the employed population's growth rates (Figure 1). The leaders among businesses in the context of the impact on the level of employment in the country are medium-sized organisations (almost 47%). An analysis of the size and number of the unemployed population, its comparison with the number of organisations and workplaces, the dynamics of the workload per organisation and vacancies revealed an unstable and not-always-obvious trend. A slight increase in the number of organisations (within 1%) sometimes leads to a significant decrease in the level of unemployment in Ukraine (almost 11%), and an insignificant reduction in their number (within 2%) provokes an increase in unemployment at rates many times higher (up to 13%). The increase in the number of organisations in 2017 (10.41%), which provoked a positive rate of growth of the number of unemployed (1.18%), is incomprehensible. The logical accompaniment of the reduction in the number of organisations is an even greater reduction in the number of vacancies (Figure 2). The increase in the efficiency of organisations' activities determines the additional demand for labour. The distribution of organisations according to the availability of net profit, as an indicator of financial success, revealed that almost a third of organisations were unprofitable (Figure 3), which not only inhibits the implementation of STP achievements, but also negatively affects the level of development of organisations and their ability to acquire competence in the market, thereby slowing down the development of the economy. In

view of the above, it can be argued that the first hypothesis of the study has been refuted, because there is no direct relationship between the number of functioning organisations and the level of employment in the country, just as the intensive growth of the number of organisations is not always a prerequisite for similar growth rates of the level of employment. More important are the indicators that characterise the effectiveness of organisations. They are evidence of those organisations' financial success, and the reasons for it. This allows us to talk about the legitimacy of the second hypothesis and to focus further research on the identification of factors for ensuring the successful operation of organisations on the market, namely, the components of their competence, the acquisition and development of which is a prerequisite for acquiring competitive advantages, and strengthening market positions, therefore expanding the opportunities for creating additional jobs with the logical improvement of the situation on the labour market.

The state and dynamics of these indicators are the subject of regular discussions by representatives of the scientific community. Issues as regards ensuring high financial results as a result of organisations' activities (Dorosh, 2018), in particular, elements of the entrepreneurial sector of the economy (Smentini et al., 2019) are relevant issues, and promising directions for the development of small businesses in Ukraine (Melnik et al., 2017) as are the reasons and consequences of the rapid activation of the service sector (Nadvinichnij, 2021), and all are all investigated. Experts, first of all, are interested in finding ways to increase the efficiency of organisations with an emphasis on ensuring the stable functioning of the economy. Many works reflect the global level of research, ignoring organisational level problems. Scientists are interested in the development of an innovative model of the development of the Ukrainian economy (Ilyash et al., 2022), justifying the directions of its state-based stimulation (Kosach et al., 2020) in certain sectors of the economy (Poluyaktova, 2016), and researching the peculiarities of the activities of state and private organisations (Prohorov et al. al., 2021). That is, the problems of the development of the national economy as a whole remain the priority, the probability of overcoming such a challenge being conditioned by the effective activity of organisations (Dorosh, 2018; Smentini et al., 2019; Melnik et al., 2019). However, there are almost no studies of the prerequisites nor the internal factors for organisations to achieve a certain level of indicators.

The peculiarity of this study is the evaluation of the results of organisations' activities from two positions, with these results being a factor in the balanced functioning of the labour market and the economy

as a whole, while at the same time testifying to the level of an organisation's competence. Identifying and assessing organisational competencies allows one to understand the most likely internal causes of a failure to achieve certain performance indicators along with a reduction of the overall efficiency or the loss of market share, and outline the prospects for market success by developing the most necessary competencies in a certain period of time. Determining the gaps in their composition, taking into account the developing of a strategy of further activities, will allow for the creating of competent organisations capable of bringing the quality of their activities closer to the level of international standards through their own development i.e., production infrastructure, technologies, and personnel. Such a research orientation is relevant in the view of Ukraine's choice of path to joining the EU. This has provoked the intensification of integration processes along with the need for Ukrainian organisations to adapt to the peculiarities of the EM, which will ensure competitive advantages in the fight against more experienced competitors.

Conclusions

The confirmed role of entrepreneurship in ensuring a stable socio-economic state of a given country directed the analysis to identify trends in the functioning of organisations in the entrepreneurial sector. An advantage in the number of Ukraine's small organisations, which are flexible and can quickly adapted to changes, in direct contrast to large and medium businesses, has been revealed. The need to determine the status of business entities in the context of the impact on the economy led to a study of their impact on the level of employment in Ukraine. The largest number of employees is in medium and large organisations. A much smaller number, albeit in a growing number of organisations, is in small businesses, which is traditional for the Ukrainian economy yet unacceptable for the economy of EU countries. The need for state support towards employers, ensuring their development in priority industries and regions with a high level of unemployment in order to achieve a structural balance of employment, and to reduce the burden on workplaces and social tensions, was substantiated.

An analysis of the dynamics of the number of unemployed people compared to the change in the number of organisations and vacancies (Figure 2) identified the liquidation of a large share of organisations, which is accompanied by a decline in production, as being among the main causes of unemployment. A significant decrease in the level of unemployment in Ukraine due to a slight increase in the number of

organisations has been proven, as has, to the contrary, a rapid increase in the number of unemployed people with an insignificant reduction in the number of organisations. The rate of increase in the number of available vacancies also tends to decrease (Figure 2). The imbalance between labour supply and demand is often caused by a mismatch between employee competence and employers' requirements. The taking into account of experts' forecasts regarding the increased demand for workers with a wide range of knowledge and skills who able to quickly adapt to new conditions made it possible to determine the need for the development of competent organisations with regard to ensuring the ability to create jobs with decent wages.

The financial condition of an organisation, as a component of competence, was assessed by analysing the profitability of Ukrainian organisations (Figure 3). The lack of profits in a third of Ukraine's organisations is a reflection of the unsatisfactory level of their competence in the modern market. The growing trend of the share of profit-making organisations in Ukraine and their exceeding the number of non-profit organisations allows us, however, to hope for an improvement in the situation. The study of the contribution of organisations of various business groups to the formation of profit in Ukraine revealed the highest share coming from large business representatives, positive results of medium organisations, but a critical situation in their small counterparts. A higher level of stability and resistance to external changes by large and medium organisations requires the identification of factors that ensure such things, which again shifts the perspective of research to organisational competence. The illogicality of certain trends indicates the existence of non-obvious factors influencing the results of the functioning of organisations, and, subsequently, the level of macroeconomic indicators and the state of the national economy. This requires continuing scientific research with an emphasis on researching the components of organisational competence as regards their timely development along with assessing the impact on the overall level of competence as a prerequisite for gaining competitive advantages in the market.

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Olena Vrublevska[*]

The EU's Sustainable Product Initiative: Enhancing the Readiness of the Furniture Business in Ukraine

Abstract

This study has been inspired by a set of new rules which are expected to be implemented within the EU's Ecodesign for Sustainable Products Regulation (ESPR). Considering the possible market risks for the Ukrainian furniture industry, and that includes both exporters and non-exporters (within the context of the harmonisation of the rules), this research sought to capture and understand the readiness of companies as regards the changes on the EU market, along with those companies' sentiments and ability to cope with the upcoming inherent challenges. The survey of furniture producers presented in this paper is one of the first devoted to the problem of Ukrainian producers' adaptability to the ESPR, made all the more challenging due to the burden of the ongoing war. This study has brought to light rather positive industry sentiments regarding furniture production volume and the competitive position of companies within the furniture industry, but there is also a lack of company awareness of the full range of ESPR measures and tools, hence there is a risk of underestimating those measures and tools' possible impact along with the risk of a delayed response. Environmental sustainability values should be given higher priority than they are currently in companies' current marketing strategies, and the effectiveness of supply chain management practices will inevitably have to be questioned by company leaders. Possible adaptation measures aimed at circularity are not sufficiently perceived, while attention is focused more on the use of materials, energy, and environmental pollution.

Keywords: Sustainable Product, Furniture, Circular Economy, Ukraine, EU Market

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Introduction

Russia's large-scale war against Ukraine not only has not reduced the priority of the EU's sustainable development goals, but, to the contrary, has attracted even more attention to the sustainability of critical resource sourcing, pushed forward the green transition agenda, and strengthened the political will for that agenda's implementation.

Following the New Circular Economy Action Plan (European Commission, 2020) and Sustainable Development Goal 12 – "Responsible consumption and production" – in March 2022, proposals of the European Commission on the Ecodesign for Sustainable Products Regulation (ESPR) were published (European Commission, 2022a; European Commission, 2022b). The initiative is aimed at extending the scope of eco-design regulations to the environmental performance of all products which are physically present on the EU market (European Commission, 2022a; Šajn, 2022; Kaldor, 2023; Heinemann, Arsenio, 2022).

Aimed at providing product sustainability-based information for consumers and businesses alike, a Digital Product Passport (DPP) has been announced. It will include information about durability, repairability, recyclability, recycled content, harmful substances, and the environmental footprint of a given product (Heinemann, Arsenio, 2022, p. 7). The first product-specific rules are expected to come in force either at the end of 2027 or at the beginning of 2028 (European Commission, 2022a). A company's compliance costs due to the implementation of a DPP are estimated to be from €1,000 to €4,000 per product that is placed on the market (European Commission, 2022a).

Furniture is considered to be a product category with a high environmental impact, albeit with potential for improvement. Hence, the aforementioned initiative will affect the competitive position of Ukrainian companies and the export of furniture from Ukraine to the EU. The European Furniture Industries Confederation has declared its support for the proposed ESPR (EFIC, 2022), with, however, a number of caveats. With the legislative procedure moving forward steadfastly, it could soon cause problems as regards access to the EU market if companies' strategies are not adopted properly or adequate investment is not made in time.

According to the Ukrainian Association of Furniture Manufacturers (Interfax-Ukraine, 2023), the financial volume of furniture exports by Ukrainian manufacturers in 2022 reached $806.6 million, which is $56.2 million higher than the COVID-impacted indicator for 2020, but $244.5

million lower than in the pre-war year of 2021. The top ten countries importing Ukrainian furniture in 2022 were Poland (34.91%), Germany (17.37%), Denmark (5.89%), Austria (4.50%), Belgium (4.04%), Romania (3.23%), Great Britain (2.59%), France (2.40%), Moldova (2.12%), and the Netherlands (1.83%). In total, in 2022, Ukraine exported furniture to 99 countries of the world (in peacetime, that number stood at 120).

Ukrainian businesses are working in an extreme environment and immediately bearing the full burden of the war. Existential risks both to people and organisations ensure that the first priority is to save lives, closely followed by the relocation of production facilities, the sustaining of operations, the restoring of supply chains, ensuring continued employment, and supporting family incomes for subsistence needs. The war has drastically worsened the business environment and undermined the very capacity to continue operations, especially when one considers asset destruction, the outflow of skilled workers into the army, and interruptions in electricity supply. In the Ukrainian furniture industry, small-and-medium-sized enterprises (SMEs) constitute the bulk of the business population and, in fact, they can currently be considered as a disadvantaged group of European furniture producers. Nevertheless, after one and half years of active war, looking to the future industry is timely, as is understanding the changes on the EU market, the need for an adaptation of business strategies, and improving readiness for post-war recovery. Production for exporting is considered by Ukrainian business leaders as a means of preserving the furniture industry amid the realities of an uncertain domestic market (Ukrainian Association of Furniture Manufacturers, 2023).

The use of new tools for regulating the environmental performance and circularity of products launched by the European Union is important not only to Ukrainian companies that are already exporting or planning to export their furniture to the EU, but also to other furniture manufacturers, taking into account the process of the harmonisation of legislation under the "Association Agreement between the European Union and its Member States, of the one part, and Ukraine, of the other part" (Official Journal, 2014) in the longer run.

This paper is structured as follows; it proceeds from the recent developments of the EU's sustainable product policy and the community's plan to implement the Digital Product Passport (DPP), which will provide information on Product/Organisation Environmental Footprint (P/OEF), recognising this as a challenge for Ukrainian exporters. After a concise review of studies in the field of green marketing and sustainable business operations placed in the context of supply chain

management and green demand on B2B markets (which includes the demand for environmental investments), the aim and methods of the study are defined. Next, a detailed description and findings of the empirical research on furniture-manufacturing companies in Ukraine are presented. It reveals business' sentiments and levels of readiness for the implementation of the ESPR, including their intentions regarding more sustainable sourcing and investing in a decrease in the size of P/OEF. The study is summarised with conclusions and discussion of its limitations, and offers some practical implications and ideas for any future research agenda.

Review and Theoretical Approach

To the best of the author's knowledge, there are currently no studies regarding the ESPR's impact on Ukrainian companies, so this is a gap that needs to be filled via investigation. In a broader context, this issue should be analysed within the framework of policy instruments and stimuli for industry sustainability transformations. The policy area is complex and covers common market rules and competition, sustainable production and consumption, circular business models, consumer rights, the environmental goods sector, and industrial demand for environmental investment. A set of multi-purpose policy instruments are expected to be used. The core measures of the ESPR are aimed at impacting the supply chain of a product. This, in turn, will increase green demand on B2B markets. "Environmental considerations are increasingly part of the operations and marketing strategies for a large number of companies, and for their investors" (European Commission, 2013). Green companies improve their own processes, influence their suppliers and others up and down the value chain, and generate innovation (European Commission, 2013).

A. Nand et al. (Nand, 2023) investigated the current state of research on sustainability-related manufacturing trade-offs that affect suppliers in developed and less-developed countries and identified eight categories of trade-offs (Nand, 2023, p. 471) with the following dominating in the less developed countries: performance and competitiveness issues; and supplier-related practices and costs (Nand, 2023, p. 472). They concluded that "contingencies connected with trade-offs include a lead firm's power, stakeholder pressure and regulations, the industry, material criticality, dependency, quality and management practices, cultural and geographic distance, and the knowledge resources that determine the approach chosen by the buying firm to manage the sustainability of lower-tier suppliers"

(Nand, 2023, p. 474). They recommended these contingency variables as a future empirical research focus with respect to both developed and less-developed countries.

The specific factors driving B2B consumers to make green purchases along with research gaps concerning the B2B scenario have been identified by N.B.B. Veerabhadrappa et al. (2023).

M.H. Chowdhury et al. (2023) investigated supply chain sustainability barriers in manufacturing and developed a decision-support framework to determine the optimal strategies for those barriers' mitigation. They considered a lack of support from top management and problems connected to the cost and supply of utility services to be the main obstacles.-

Much of the research on firms' sustainability and green marketing in a B2B context are focused on human attitudes and thought patterns when it comes to making decisions concerning organisations and organisational operations (see, for example, Khattak, 2022). Referring to the subjectivity of human psychology, they do not examine the issues of organisational rationale for any given performance.

The determination of the type of the research and an appropriate sample size are not only essential features of the theoretical approach, but also of the designing and conducting of company research and interpreting the results. Considering resource constraints and the ongoing active phase of the war, it appears quite challenging to collect the volume of primary data that would allow inferences to be drawn with a high level of statistical reliability as required by quantitative research standards for the generalisation of findings. At the same time, it is quite typical that qualitative studies based on small samples may also provide valuable insights. An important discussion of problems pertaining to small samples and essential features of qualitative and quantitative research was once presented by T. Bock and J. Sergeant (Bock, Sergeant, 2002). Referring to a publication by Gordon and Langmaid in 1988, they noted that qualitative research is ultimately concerned with understanding things rather than with measuring them (Gordon, Langmaid, 1988, citation from Bock, Sergeant, 2002, p. 2) while "quantitatively inclined researchers simply see measurement as a necessary step in gaining understanding" (Bock, Sergeant, 2002, p. 2). Apart from the sample size, the method of selecting objects to be studied also matters. These theses contribute to the substantiation of the study design presented in this paper.

The Aim of the Research and the Method

This research is focused on the readiness of the Ukrainian furniture industry as regards the changes on the EU market due to the upcoming implementation of ESPR, along with the industry's sentiments and capacity to cope with the inherent challenges. The sector includes companies operating in the field of NACE (Rev. 2) Section C, code 31 – "Manufacture of furniture".

The aim of the research is to reveal:

- the current level of business awareness, expectations, and the degree of readiness of the industry's companies as regards the introduction of the Digital Product Passport (DPP) and indicators of the ecological footprint of a given product/organisation as tools of EU market regulation;
- the intentions of the industry's companies regarding the production of environmental goods and services for the short-and-medium-term period and their long-term strategies;
- the factors influencing the environmental demand of the industry in B2B markets in the context of supply chains, and environmental investments in connection with the environmental footprint of a given organisation.

To achieve the research aim, a survey of representatives of Ukrainian companies producing furniture was implemented during the period from 26.07.2023–15.08.2023.

The following assumptions are suggested:

- H1: The level of awareness of Ukrainian furniture exporters about the set of measures to be implemented within the ESPR is low, hence they underestimate the risks of interrupting operations;
- H2: The readiness of companies to shift to more sustainable business models is insufficient, especially in terms of providing circularity.

Empirical Research: Business Survey

The data were collected through a self-administered questionnaire in both paper-and-pencil and computerised form. Both the invitations to take part in the survey and the questionnaire itself were disseminated at a conference of furniture manufacturers and via a dedicated online publication, a webinar, mailing furniture companies' social networks, and phone calls to companies. A total number of 14 companies responded. The following methods were used in order to reduce the number of non-responses in telephone, face-to-face, and mail-based communication

in the forms of a short introduction, a letter sent in advance, and a respondent-friendly questionnaire design. The questionnaire, covering the main themes of a company's position and sustainability shift, was drawn up with a set of 35 questions, most of which were close-ended in nature. To formulate some questions and to process the results, elements of the business tendency survey methodology (European Commission, 2023) were used, having been properly adapted *vis-a-vis* the approach to constructing questions, scales for responses, and the balance method of aggregating the responses which is used in statistics for a calculation of the business confidence indicator.

The questionnaire included questions aimed at revealing themes such as:

- the level of acquaintance with and the importance of the launching of the new EU requirements for companies and those requirements' inherent challenges in complying with them;
- company characteristics, recent dynamics, and strategy, i.e., whether a company has implemented the green marketing strategy and which type (reactive or proactive by V. Vaccaro, 2009);
- recent trends and business expectations regarding competitive position, the use of production facilities, and the ESPR's impact on the current status of furniture companies and their ability to recover after the possible negative impact of the regulation;
- the greening of the upstream supply chain, and sustainability-related trade-offs of furniture manufactures regarding the supply of materials proceeding from the postulate that "a firm is as sustainable as its suppliers" (Krause et al., 2009, cited in Nand, 2023, p. 464);
- industry intentions regarding the greening of products;
- industry readiness, intentions, and opportunities regarding environmental expenditure.

Findings

Companies' Characteristics

92.9% of the companies participating in the survey were represented by their owners or CEOs who responded in the survey. There were no enterprises with foreign investments (a factor which could have contributed to the transfer of management practices) among those organisations. A distribution of companies by size is presented in Figure 1. 50% of the respondents (7 companies) exported manufactured furniture products to EU countries in 2022. Of those, three companies (21.4% of the total number of respondents) had an export share of at least 80% of

the manufactured furniture products, one company had 30%, and three companies had no more than 10%.

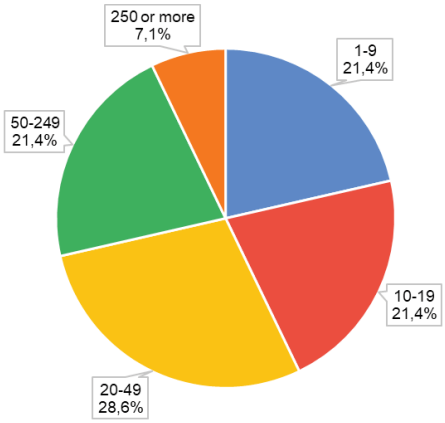

Figure 1. Companies by Size (the Number of Persons Employed in Full Time Equivalent)
Source: the author's own work.

Awareness

Data on the level of company awareness with regard to the new tools and basic requirements for furniture products on the EU market and the accompanying information on them which are planned to be introduced by the ESPR (the aforementioned digital passport, durability, maintainability, energy and resource efficiency, recycled content, the possibility of recovery, one's ecological and carbon footprint, and the prohibition of the destruction of unsold products) indicate that none of the respondents were informed about them in detail before participating in the survey. However, they (both exporters and those operating on the domestic market) recognise that these issues are important to them. On the whole, the level of awareness of exporters before participating in the survey was higher than that of non-exporters (the ratio of answers "We had some information, but we do not have detailed information" and "No, but this issue is important for the company" is 4:3 for exporters and 1:6 for non-exporters).

Production Trends, Expectations, and Limits

The answers provided by the companies which took part in the questionnaire indicate positive trends in the industry on the whole; half of the respondents noted an increase in the volume of production over the previous three months, with 36.7% noting an unchanged volume.

The balances as the difference between positive and negative answering options, measured as percentage points of the total answers (European Commission, 2023, p. 12) are presented in Figure 2 (balance estimations here and further on are based on the methodology of business surveys; European Commission, 2023). Positive expectations regarding the change in the volume of production in the following three months were also dominant among manufacturers; 64.3% of respondents expected it to increase. None of the exporters expected the production volume to decrease. Despite the ongoing war, the competitive position of 92.9% of the companies on the domestic furniture market had not deteriorated over the previous 3 months, and it remained unchanged for more than half of the respondent companies. All the exporters noted that their competitive position on the EU furniture market remained unchanged over the previous 3 months.

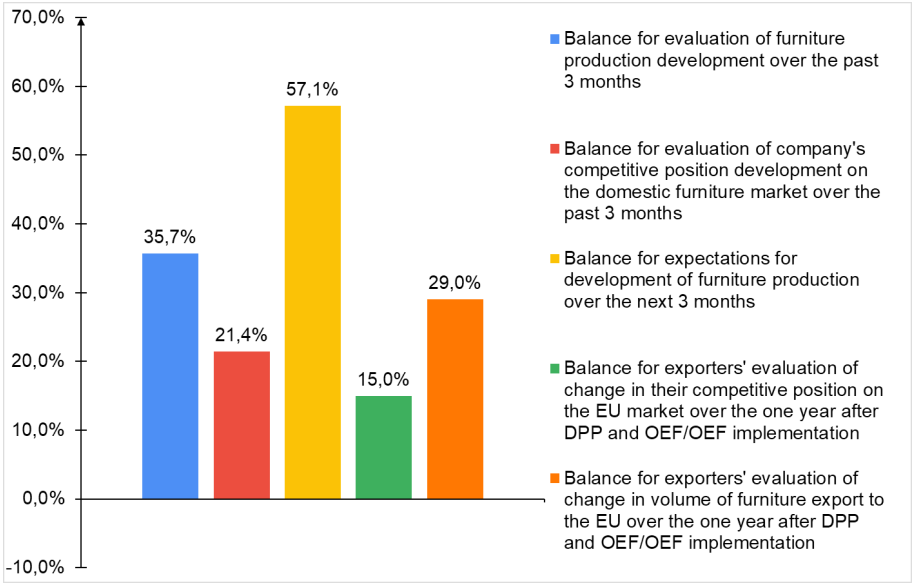

Figure 2. Balances for Trends and Expectations (Positive Options & Negative Options)

Source: the author's own work.

The limitations for furniture production that the companies are currently facing are presented in Figure 3. The balance of responses about the limits or opportunities associated with the ESPR (Figure 4) is encouraging, with a 12 % domination of the most positive and positive expectations over the negative and the most negative ones.

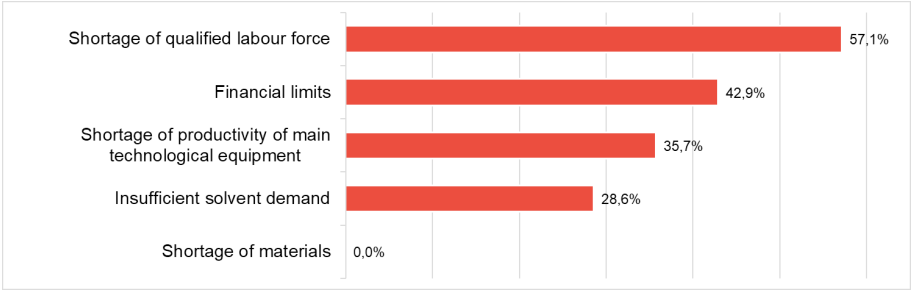

Figure 3. The Main Limitations for Furniture Production (Share of Respondents as %)
Source: the author's own work.

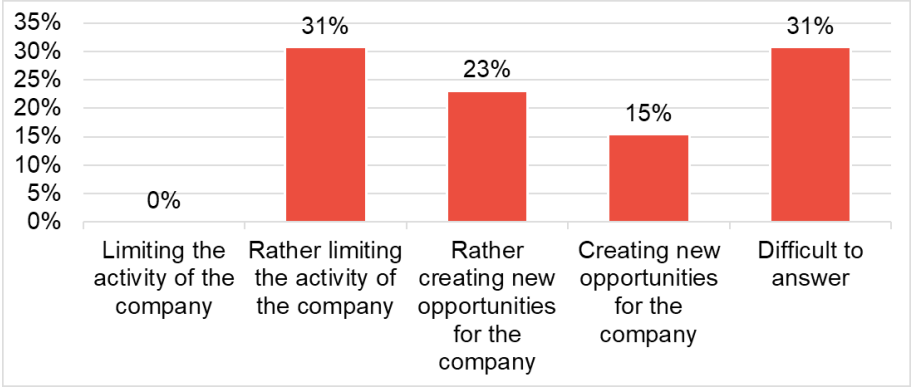

Figure 4. An Assessment of the Product Sustainability Measures to be Implemented in the EU (Limits & Opportunities)
Source: the author's own work.

The respondents realise that their current marketing strategies will be impacted by the ESPR and will not remain effective under the new regulations (Figure 5). The exporters of the group are more confident and more oriented towards essential changes of the strategy than the non-exporters, but, at present, even some of the former do not appear to fully perceive the extent of changes required by the circularity requirements of the ESPR.-

The balance for exporters' expectations as to the change in their competitive position on the EU market due to the regulation is slightly positive (Figure 2), but with a high level of uncertainty (for 57% of the respondents it was hard to provide a definite answer). The balance for the exporters' evaluation of change in the volume of furniture export to the EU over one year after DPP and OEF/OEF implementation is slightly better with less uncertainty which evidences confidence in the resilience

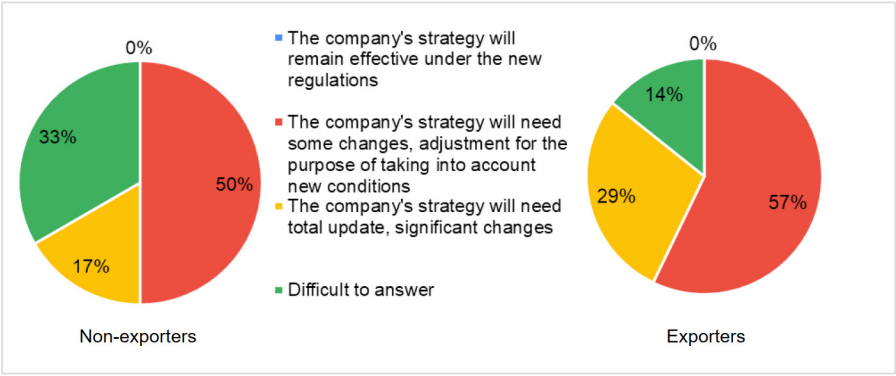

Figure 5. An Assessment of the Strategy of a Company Under the New Regulations

Source: the author's own work.

of the furniture business. One exporter that expects a decline in export levels assesses their own capability to restore it within a three-year period following DPP and OEF/OEF's implementation as a fairly likely scenario.

Sourcing

To manage supply chain sustainability, almost two thirds of the companies (64.3%) use and analyse the information about their direct suppliers provided by the suppliers themselves (Figure 6). None of the respondents impose independent audit or certification requirements on suppliers nor do they make supply chain information available to the public.

The share of wood-based materials – used by exporters for furniture production – is higher than 70% of the total cost of materials purchased for the manufacture of furniture (Figure 7). Four exporters reported significant shares of solid wood to be 50%, 70%, 95%, and even 100% of the total cost of materials purchased for the manufacture of furniture. This suggests that Ukrainian companies supplying products to the EU market specialise in furniture made of materials of wood origin. As to the sustainability of wood supply, 71.4% of the exporting companies reported that certified wood makes up 80% or more of the value of purchased wood materials, for the rest of the exporters the share of certified wood does not exceed 10% (for all surveyed companies, this indicator is 57%).

The three main factors that determine company demand for environmentally sustainable materials for furniture production are as follows:

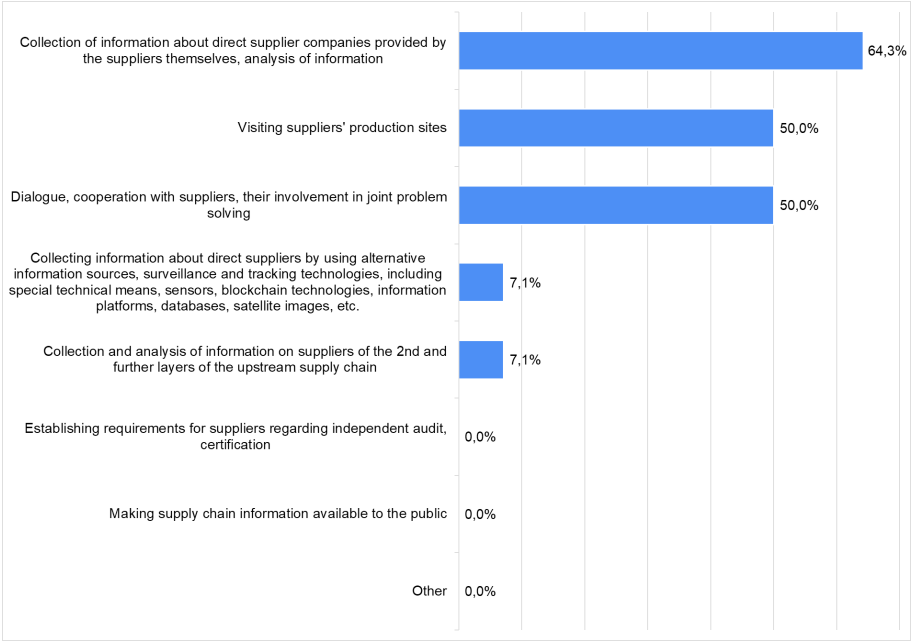

Figure 6. Measures the Companies Carry Out to Manage Supply Chain Sustainability

Source: the author's own work.

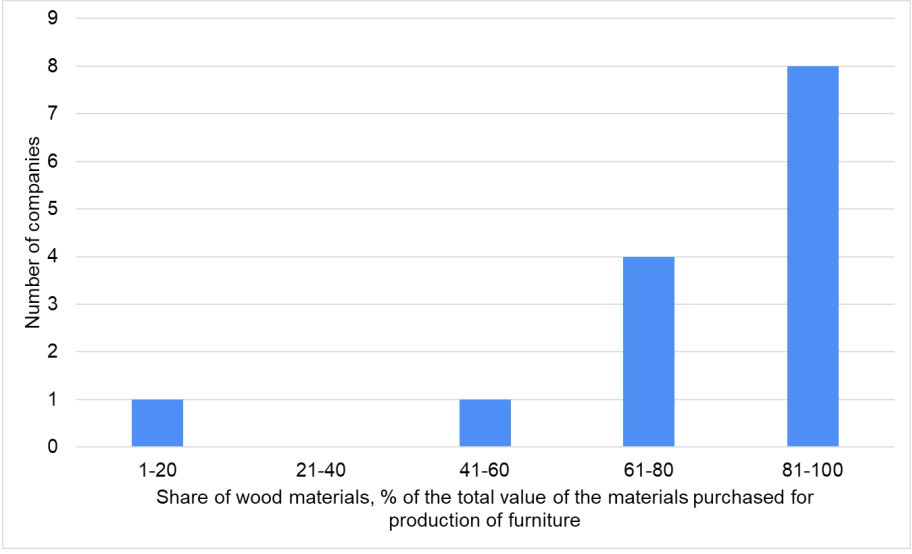

Figure 7. Companies by Share of Wood Materials in Sourcing

Source: the author's own work.

- legislative requirements regarding the materials used in the manufacture of products (e.g., the prohibition of certain chemicals, etc.), which were reported by 64.3% of respondents;
- requirements which are put forward in the process of certifying a company's products, reported by 57.1% of the companies;
- pressure from final consumers, noted by 50% of the companies.

The survey also revealed that such demand is strongly influenced by the companies' voluntary commitments within the framework of corporate social responsibility as was reported by 42.9% of the respondents. They consider pressure from competitors along with public sector organisations in the form of customers within the framework of public procurement, and investors, to be of low importance. The activity of non-governmental organisations as an impact factor was not reported by any respondent, which confirms the insignificant role of NGOs in how furniture companies manage their supply chains.

Furniture companies are positive as to the opportunity to shift to more environmentally sustainable sourcing over the next 3 years after the launch of the DPP and P/OEF (Figure 8); more than two-thirds of them consider this to be very likely or fairly likely.

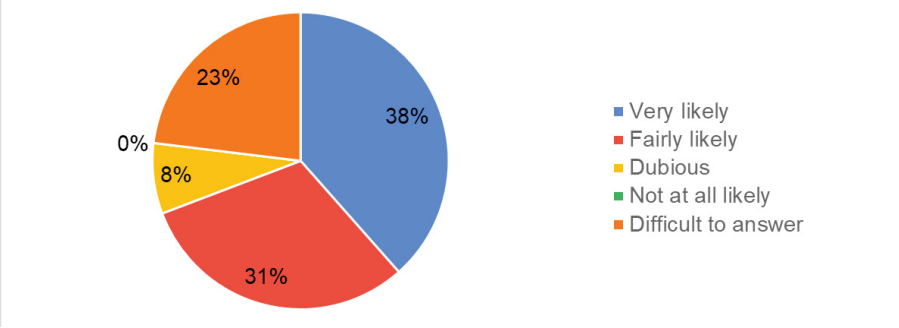

Figure 8. Companies' Expectations Concerning Their Shift to More Environmentally Sustainable Sourcing Over the Next 3 Years After the Launch of the DPP and P/OEF

Source: the author's own work.

Greening Products and Processes

The implementation of ESPR will make companies react by improving their technologies and P/OEFs. A number of questions were asked to reveal the respondent companies' current vision for this eventuality along with their priority directions for improving their products in order to reduce the environmental impact of production processes over the next 3 years after the launch of the DPP and P/OEF. 50% of the companies

reported the share of furniture so positioned as "Cleaner and resource-efficient products" at the level of 80–100% of total sales of furniture in value terms in 2022. Such a share for one company amounted to 5%. 35.7% of the companies did not respond to the question, which can be interpreted as those companies having produced zero greener products. At the same time, half of the respondents considered the improvement of their PEF as either very likely or fairly likely over the next 3 years after the launch of the DPP and P/OEF.

A question was asked to reveal the characteristics of furniture products, including packaging and production processes which are to be improved as a priority in order to reduce company PEF and circularity indicators (Figure 9). Positions at the top of the rank include the "Use of materials, material intensity", the "Use of energy", and "Environmental pollution, toxic waste". Characteristics related to circularity, such as "Short period of use" and "Limited repairability" received little or no attention, which means that Ukrainian furniture manufacturers currently do not consider these features as the essential issues to address.

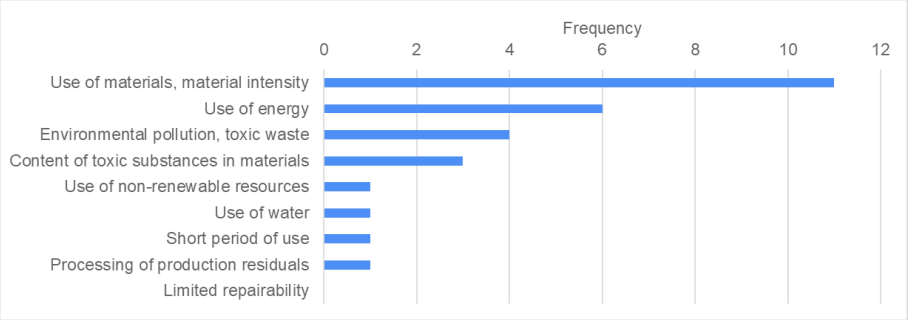

Figure 9. Priority Rank for the Improvement of the Characteristics of Furniture and its Production
Source: the author's own work.

Only one company out of the 14 has implemented the ISO 14001 environmental management system. The survey reveals what can be interpreted as a degree of company embarrassment when they were self-assessing their OEF against the typical (average) "Representative Organisation" of the sector (Figure 10); 46% of those who responded were not able to perform a self-assessment of that nature.

According to the ESPR, additional measures are needed for the sustainability of the supply chain, but only environmental investment growth can make the environmental profile of companies more sustainable. Two types of technologies to be invested in were analysed to

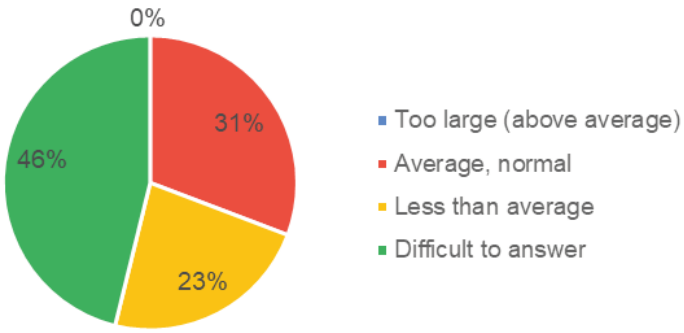

Figure 10. A Self-Assessment of Companies' OEF Against the Typical (Average) "Representative Organisation" of the Sector
Source: the author's own work.

separate the preventive approach (integrated technologies) and the effort to compensate for damage (end-of-pipe technologies). The expectations of companies as to the change in the volume of environmental investment over the next 3 years after the launch of the DPP and P/OEF are the result of their perceived current P/OEF levels, expected regulation, available financial opportunities, and their ability to respond quickly to changes in the marketing environment within a given period. In the case of positive expectations revealed, additional questions about the priority areas for investing were asked using the Classification of Environmental Protection Activities – CEPA (Eurostat, 2017). 38% of responses which were obtained for every type of the technologies mentioned above demonstrate positive expectations as regards the increase of investments while there is simultaneously a very high level of uncertainty about this issue, and 54–62% of companies faced difficulty in answering the questions. "Protection of ambient air and climate" and "Waste management" were considered as the main directions for applying efforts (Figure 11). At the same time, one can say that the respondents were not able to differentiate between the two types of technologies clearly enough despite the special notes provided in the questionnaire.

The availability of financial, material, and human resources and technologies, the demand for cleaner, resource efficient products as a form of pressure or, vice versa, as a marketing opportunity, the external expectations of stakeholders regarding business responsibility, and the institutional framework were all analysed so as to understand the sensitivity of companies to different stimuli from the viewpoint of policy recommendations. 76.9% of the 13 companies which answered the question

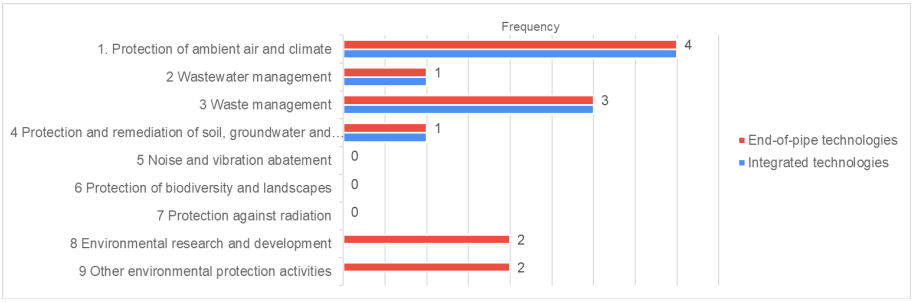

Figure 11. Priority Areas of Environmental Investment by CEPA Classes
Source: the author's own work.

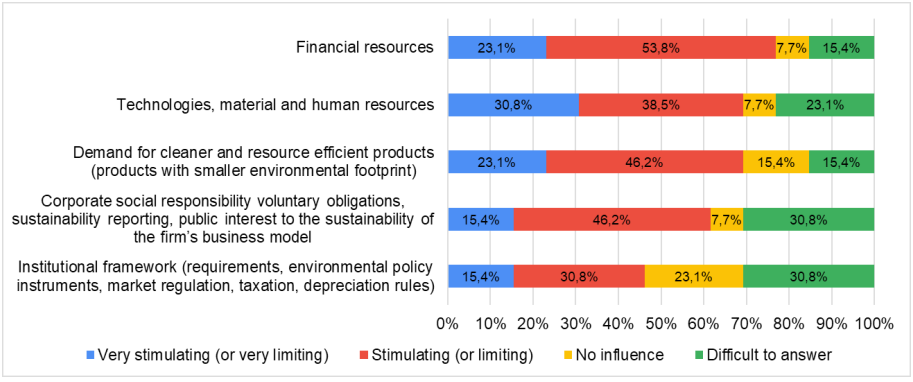

Figure 12. Drivers for Environmental Investment
Source: the author's own work.

concerning the drivers for environmental investment considered financial resources as the most important driver which was (very) stimulating (in the case of deficit – limiting) their environmental investment (Figure 12). The same level of importance was noted by 69.2% of respondents for other resources and green demand. Institutional stimuli are considered to be the weakest (46.2%) but usually it is the initial impulse for changes to be made.

Conclusions

The indicators of the current state of the furniture industry in the survey covered a range of company characteristics, a company's management board's awareness, production volume, export, strategy, the supply chain, and product and organisation environmental footprints. The furniture industry's perception of recent trends in production

volume and competitive position were analysed. Furniture manufacturers' expectations regarding production and export volumes, production capacity, their competitive position, their strategic visions, supply chain sustainability, product development, and organisations' environmental footprints were revealed.

The hypothesis H1 has been confirmed, and one can conclude that the numerous essential and innovative details of ESPR were not known to Ukrainian furniture manufactures before the survey, while the exporters were, preliminarily, somewhat better informed than companies that sell their products only on the domestic market. Exporters are also more focused on updating their strategies to be in line with new regulations than non-exporters. Additional evidence of gaps in awareness and the resultant uncertainty is the high proportion of "Difficult to answer" responses to some questions. However, all the companies which were not aware of the ESPR consider this issue important to them, which shows their interest in it. More efforts should be made to disseminate the relevant information among Ukrainian furniture companies and other businesses to reduce any uncertainty about the new regulation.

There is a risk of respondent underestimation as regards the severity of the changes on the EU market and the subsequent interruptions in operations and weakening competitive position due to, *inter alia*, insufficient awareness, the highly speculative character of any forecasts in wartime, and a focus on a shortened horizon of planning.

Hypothesis H2 is also confirmed, due to the fact that nowadays there is less attention paid by businesses to circularity in terms of the short period of use and the limited repairability of furniture.

The studies found that even in the extremely turbulent environment *and* heavy burden of the full-scale war against Ukraine, after 18 months since its beginning, Ukrainian furniture business leaders declared a positive balance of the estimates of changes in production volume over the previous three months before the survey, a non-deteriorating competitive position of companies on the domestic market, and a very high balance for expectations for furniture production growth in the following 3 months from the time of the survey's end (+57.1%). Being aware of the difficulties that may arise due to the ESPR's implementation, furniture exporters are still inclined to be positive about their competitive position on the EU market a year into the future after DPP and OEF/OEF's implementation, with expectations of an increase in furniture export outweighing expectations of a decline.

Producers are not facing a shortage of materials; 71.4% of companies have an excessive or sufficient production capacity considering the

existing orders for furniture and the expected demand, which are good preconditions for development in the post-war recovery period. 38% of them perceive ESPR as something which promises marketing opportunities. But the shortage of workers (wartime specifics) and financing are limiting their operations.

The current orientation of companies' marketing strategies does not recognise sustainability values to a great degree. In the last 5 years, only one company out of the 14 has implemented a green marketing strategy which was rather reactive (following the requirements of regulatory documents), and one other company, rather proactively, implemented a green marketing strategy (aimed at broader, long-term competitive advantages).

Ukrainian companies mainly offer furniture made of wood-based materials (including solid wood) coming from Ukrainian suppliers to the EU market. 28.6% of exporters who sell products made mainly from non-certified wood materials will face the risk of being prevented from selling their wares on the EU market. Currently, supply chain management practices in the companies which participated in the study provide neither requirements for an independent audit (certification) to suppliers, nor transparency of supply chain information for the public. Only one company collects and analyses information about the supplies of the latter and further tiers of the upstream supply chain. This should be a priority area to address to by the companies' managers as well as policy makers in order to strengthen the readiness of furniture producers to ESPR because the legal requirements regarding materials used in the manufacture of products is perceived by companies as the most important driver of their demand on environmentally sustainable materials for furniture production.

Resilience is demonstrated by two-thirds of furniture companies which believe that a transition to more environmentally sustainable sourcing is likely within the next 3 years after the launch of the DPP and P/OEF, and half of the respondents who believe that improving their PEF is quite likely within the same time period.

P/OEF indicators will provide more transparency with regard to the sustainability of products and should encourage investment in both cleaner, resource-efficient products with a focus on those which have been specially designed for environmental purposes (i.e., products for environmental sustainability). To understand the managerial implications of the expectations of the new rules, the envisionments of the companies were revealed concerning the priority of the environmental characteristics of furniture and its production which should be aimed at improvement.

A certain gap was also revealed between ESPR circularity requirements such as durability and reparability, and the attention that companies currently pay to the circularity characteristics of their products. This is partly countervailed by the recognition that waste management is a priority for environmental investment (after protecting the ambient air and climate, which ranks first).

At the moment, the group of companies from the study show a low level of any implementation of environmental management systems along with their dealing with difficulty in evaluating OEF through self-assessment as well as distinguishing between end-of-pipe environmental technologies and integrated technologies.

Companies report their highest sensitivity to financial resources as an impact factor (driver) for environmental investment (which is quite a common finding of many investigations of incentives influencing companies' behaviour). At the same time, the very need and the industrial demand on the resources for environmental purposes come from compliance requirements created by institutional frameworks, final demand, and/or societal expectations. This pushes us to rethink the list of stimuli considering the so-called 'dose/response' sequence. Nevertheless, considering the furniture industry consists mainly of small businesses, enabling the shift to more sustainable business models and products will require more options for financing which should be offered to furniture producers. "The European Commission expects negative impacts on SMEs due to increased admin burdens and compliance costs in the short run, but expects these to be offset by beneficial effects of the policies over time, e.g., through new business opportunities in repairing and recycling" (European Environmental Bureau, 2022, p. 11). As the risk of small businesses being terminated and the need to develop new business models are realised, comparative international research of the sentiments and environments of the furniture business could demonstrate the extent of the support that is needed.

Limitations and Future Research Agenda

The research conducted is quantitative in terms of the method of conducting it (a survey, questionnaire-based, in the forms of paper-and-pencil and computerised questionnaire administration) with a small sample. The aim was to gain an insight into the companies' perceptions and expectations. No pre-testing of the questionnaire was implemented. Despite this, the companies are represented quite evenly in terms of size and their (domestic) export market orientation. Only those companies

that are currently continuing their business activities took part in the survey, and are highly motivated and active. Most of the companies (12 out of the 14) are members of the leading association in the furniture industry in Ukraine, namely, the Ukrainian Association of Furniture Manufacturers.

The small sample size makes us place caveats on the findings, recognising the limited capacity for the extrapolation of results and the risks of extended generalisations. Nevertheless, the research, which was one of the first attempts in this sphere, due to the coverage of an active part of the furniture industry's population and by a fairly in-depth and extensive questionnaire, has resulted in some valuable primary insights of the state, expectations, and perceptions in the furniture industry in the new marketing environment currently being formed by diving deep into the small sample.

Company size is an important factor that may affect a firm's sustainability (Nand, 2023, p. 468) but, in this study, the impact of a firm's size on the issues examined was not investigated due to the small sample of companies. This could be a task for a further research agenda together with the scaling of the object. A comparison of furniture manufacturers between countries could shed more light on the specifics of their competitive positions in the emerging marketing environment.

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Liga Andersone[*]

EU Cooperation Programmes for Central Asia: New Challenges and Responses

Abstract

This article aims to analyse EU cooperation programmes for Central Asia, placing emphasis on the importance of cross-regional cooperation in creating a favourable environment for business development and foreign investment, aligning those cooperation programmes with the UN Sustainable development agenda and the implementation of the universal Sustainable Development goals. The author highlights regional and local social and institutional characteristics focusing on EU-Central Asia cooperation. The article assesses the importance of cross-regional cooperation in creating a favourable environment for both business development and foreign investment, and provides analysis on EU-Kazakhstan cooperation. The author applies the monographic method, as well as the graphical method, secondary data analysis, and the qualitative method in the form of an expert interview. The author concludes that the relationship between the European Union and Central Asia is of global significance and their ties are likely to increase in strength in the future bearing in mind, notably, Russia's and China's interest in retaining Central Asian countries within their own sphere of political and economic influence. The author puts forward proposals that additional EU multidimension external programmes are paramount for the EU's and Central Asia's productive relations.

Keywords: Central Asia, European Union, Development Cooperation, Sustainable Development, Connectivity

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Introduction

In the growing internationalisation of the world economy, there is a strong demand to explain the rationale for a regional approach in overall development and especially the regional approach in the development of low and middle-income economies. EU-Central Asia relations have intensified considering the most recent geopolitical developments, such as the consequences of the COVID-19 global pandemic, Russia's invasion in Ukraine, and the international community's response to Russia's aggressive actions against Ukraine, including sanctions. Global and regional shocks serve as additional enablers for enhancing EU and Central Asia cooperation, contributing to the economic resilience of both regions. Indeed, the Managing Director of the International Monetary Fund has pointed to collaboration among nations in a more uncertain and shock-prone world (Georgieva, 2023, p. 131).

Alongside the political tools of cooperation, the EU uses its development cooperation programmes to support a dialogue in order to promote sound business environments in Central Asia thus contributing to the implementation of Sustainable Development Goals (SDGs) for the sustainable development of Central Asia.

Development Cooperation as a Model for Economic Growth in a Regional Context

Without analysing the economic aspects of international development, many of the more complex issues cannot be fully explained. Growth theories and growth economics are valuable tools in the design and implementation of good governance, structural reforms, as well as catch-up policies along with international support policies and programmes. The author offers to look at assistance programmes based on growth theories, the standard business cycle model (Klenow, Rodriguez-Clare, 1997, p. 84), and shocks to Total Factor Productivity (TFP) (Hall, Jones, 1999, p. 93). Scholars focusing on the new growth theory advocate that humans, desires, and unlimited wants foster a constant increase in productivity and economic growth (Kuznets, 1971, p. 73). The new growth theory places emphasis on the key factor of knowledge and pushes economic growth in a smarter and more substantial way. Knowledge is treated as an asset for growth. Indeed, this is commonly assumed by many scholars (Rebelo, 1998; McCallum, 1996, p. 11) with whom the author agrees, and this concept is one of the central tenets of the new growth theory.

The perspective of the new growth theory motivates the identification of gaps in existing innovation data to address the role of human capital in business innovation and the aspects of innovation activity that are geographically localised. Swan (1956, p. 341) and Solow (1957, p. 71) introduced a model of long-run economic growth. The model first considered exogenous population increases to set the growth rate but, later, Solow incorporated technology changes into the model. Solow pointed to the technical progress as a source of growth in economy as an author of TFP. It plays a critical role on economic fluctuations, economic growth, and cross-country per capita income differences. As was demonstrated by Solow (1957, p. 76), cross-country differences in technology may generate important cross-country differences in income per capita. It is essential to underline the existence of studies related to the convergence of economies and countries in which the following types of convergence are discussed – firstly, absolute convergence between a selected group of countries converge to one another in the long run independently of their initial conditions (Romer, 1986, p. 1030; Lucas, 1988, p. 38; Solow, 1957, p. 79). Next, conditional convergences take place between countries characterised by similar parameters. Countries which are similar in their structural characteristics converge in the long run independently of their initial conditions (Barro, Sala-I-Martin, 1995; Mankiw, Romer, Weil, 1992). Then there is club convergence between countries, characterised by polarisation, persistent poverty, and clustering (Durlauf, Paul, 1995, p. 371). Countries that are similar in their structural characteristics converge in the long run if their initial conditions are similar (Quah, 1996, p. 112). Sala-i-Martín (Sala-i-Martín, Barro, 2003; Sala-i-Martin, 2006, p. 386) distinguishes the following elements that determine economic growth: the accumulation of physical capital, human capital, and education; a diversity of institutions favourable to the economy; the free movement of capital, technology, ideas, foreign investment; and the free flow of information. Other authors look the spatial context, focusing of the Central Place and Place-Based Theory. As regards cases of the developing world and the European Union, Fabrizio Barca, Philip McCann, Andrés Rodríguez-Pose (Barca, McCann, Rodríguez-Pose, 2012; Barca, 2009; 2011, McCann, 2023) apply examples of how – in this changing context – development intervention should increasingly focus on efficiency and social inclusion at the expense of an emphasis on territorial convergence and how strategies should consider economic, social, political, and institutional diversity in order to maximise both the local and aggregate potential for economic development.

Based on the theoretical approaches analysed, the author has created Figure 1 below of the competitiveness essentials of economies and regions.

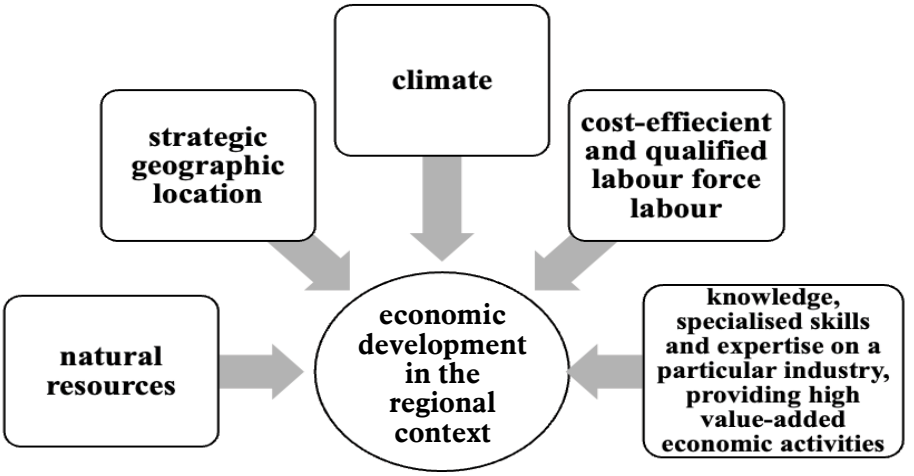

Figure 1. Competitiveness Essentials of Economies and Regions
Source: created by the author based on the relevant literature.

The scientific literature on development cooperation and aid policy debates common public goods versus human development. Faust and his work "Does Aid Contribute to Sustainable Development Goals?" (Faust, 2018, p. 62) analyses the cooperation impact of the implementation of SDGs. The ODA aid and assistance donor countries programme is designed to promote a coherent approach to support regions and countries of mostly low and middle income economies. These programmes aim at building a stimulating institutional, economic, and business environment, a favourable investment environment and, consequently, at helping to implement structural reforms that lead to the development of the catch-up potential by employing a competitive, yet reviled, advantage of recipient countries and regions.

Indicators and Instruments for Regional and Economic Cooperation in Central Asia in the Context of EU Support Programmes

The methodology of the EU support to Central Asia represents different types of practical tools aligned with political tools which the EU has its disposal. The EU has also established legal and political framework with the region by concluding agreements on financial and technical

cooperation, simultaneously creating financing for the implementation of these agreements for the EU budget. Practical support tools include regional programmes and financing instruments ensuring assistance and partnership in the transition to the market economy, sustainable economic and social development as well as the integration of Central Asian countries in the world economy. The EU perceives Central Asia as a region and applies the regional approach to enhance relationship with all five countries in that region.

The other type of methodology embraces multilateral and bilateral cooperation between CA countries, the EU and its Member States, and international and regional financial institutions in the forms of loans, equity, and guarantees and are exploited in such sectors as financial and intermediated finance, corporate sectors, infrastructure as well as areas of strategic cooperation. The financial instruments of the EU development assistance policy provide risk finance to small-and-medium-sized enterprises and foster the implementation of EU policies, notably in the fields of entrepreneurship, technology, innovation, and regional development. It is worth mentioning that the EU has created an instrument for blending investment loans from the EIB and other European financial institutions in order to support projects in Central Asia. The blending instrument is the Investment Facility for Central Asia (IFCA), which provides EU funding in support of sustainable development, economic growth, and poverty reduction in the region. The EU development cooperation policy is closely interlinked with the global-agenda-setting priorities of development cooperation. Therefore, after the adoption of the 2030 Agenda and the Sustainable Development Goals (SDGs), the EU also agreed to align itself with those SDGs. The EU's development cooperation instruments are closely interlinked with the EU's budgets, and, in the framework of each Multiyear Financial Framework (MFF), a new instrument for the implementation of the development cooperation implementation is being established. Under the current financial framework which covers the period of 2021–2027, the Neighbourhood, Development, and International Cooperation Instrument (NDICI) provides for development cooperation instruments with a budget of 79.5 billion euros and aims at achieving the SDGs as defined in the 2030 Agenda adopted by the UN in 2015.

Another tool designed by the current EU Commission is the Global Gateway Initiative which is mobilising extant resources and will also blend the resources of the EU, Member States, European financial institutions, national development finance institutions, and private sector financing. It is aligned with G7 members in order to strengthen partnerships with

others around the world and to develop a new partnership to build back better for the world through a step change in our approach to investment for infrastructure, including through an initiative for clean and green growth (G7 Leaders' communiqué, 2021). The first Global Gateway forum took place on the 25th and 26th of October 2023 in Brussels. Quite often, the Global Gateway initiative is considered as Europe's answer to China's Belt and Road Initiative. Digitalisation has become part of the EU-Asia Connectivity Strategy (EEAS, 2018) and the EU Global Gateway Initiative (EEAS, 2021), and Central Asia is now one of the pilot areas for the Global Gateway initiative, having been more concretely discussed during the aforementioned Global Gateway forum in October 2023.

The author argues that partnership with partner countries, in this case with Central Asian countries, is crucial for maximising the output of the cooperation programmes to support economies and transformation of business environment thus creating favourable conditions for EU investment in the region. As demonstrated in Figure 2, the perception of partnership is crucial in providing for reforms in partner countries thus ensuring their ownership of improving the business environment and attracting foreign investments.

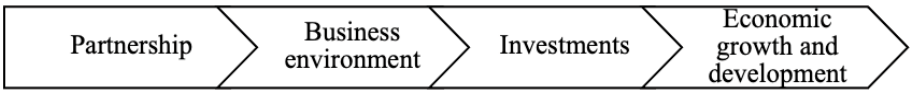

Figure 2. A Model for Growth Based on the EU Partnership Programme

Source: The figure has been created by the author, and is based on development studies' literature.

The Role of the EU and Kazakhstan in Blooming Regional Maturity

Promoting regional integration is a key EU foreign policy objective in the Central Asian region. The EU's Strategy for Central Asia was updated in 2019 via a harmonising of EU policy with new challenges and opportunities in the Central Asian region. The strategy aims at promoting welfare prosperity and regional cooperation in Central Asia, with achieving inclusive, sustainable growth remaining the main challenge for Central Asia.

Kazakhstan is the largest economy in the Central Asian region and a main destination for regional trade and investment, and the EU is Kazakhstan's biggest trading partner, accounting for 40% of its external trade. Kazakhstan's economy is highly internationalised and open to foreign investment and technology and vast natural resources. In

2023, the EU and Kazakhstan marked the 30th anniversary of enduring diplomatic relations by confirming priorities for both parties to continue cooperation in the framework of the EU-Central Asia Strategy and the Enhanced Partnership and Cooperation Agreements (EPCA, 2016). There is synergy between the Strategy's priorities and the implementation of EPCAs, including comprehensive provisions on trade. The first ever EPCA between the European Union and its Member States on the one part, and the Republic of Kazakhstan as the other, was signed in 2015 and entered into force on 1st March 2020 (EEAS, 2021). It has a very broad scope of cooperation, including economy, trade and investment, aviation, education, and research. The implementation is supported by a bilateral Cooperation Facility for the period 2021–2024 in two priority areas focused on sustainable economic growth and the rule of law supporting process reforms in Kazakhstan (EEAS, 2023a). The Cooperation Facility runs from 2021 to 2024 and has financing of 9 million euros. The EU and Kazakhstan have signed on to implementing the Memorandum of Understanding on Sustainable Raw Materials, Batteries and Renewable Hydrogen value chains and a roadmap on its implementation (Memorandum, 2022). These are examples of bilateral cooperation which go hand in hand with regional initiatives supported by the EU.

Another regional initiative set up under the umbrella of the EU – the Central Asia Strategy – is the EU-Central Asia Economic Forum. It has created a new platform for interregional economic dialogue. An EU/Central Asia videoconference on the role of private sector development in Central Asia in a post-COVID-19 recovery context has already been held, and, in December 2020, the first EU-Central Asia Business Forum took place. The second European Union-Central Asia Economic Forum was organised in Almaty, Kazakhstan on 18th–19th May 2023. The Joint Communique of Almaty Business forums highlights the need to intensify efforts in areas such as creating an attractive business environment in the Central Asia region, and enhancing green and digital transitions, as well as trade and connectivity was stressed (EEAS, 2023b). The EU/Central Asia Strategy also stresses the importance of developing services further, and of modernising infrastructures. On 18th November 2022, during that year's EU/Central Asia Connectivity Conference, the chief of the EU's foreign policy advocated for joint action to tackle the existing challenges by recovering economies after the pandemic, creating connectivity between the EU and Central Asia. Another important aspect highlighted was addressing the consequences of Russia's invasion of Ukraine in terms of the triple crisis of energy, food, and debt (EEAS, 2022).

The roadmap for the implementation of the decisions taken during the EU/Central Asia most recent ministerial meeting in October 2023 has 5 key areas of cooperation – a deepening of inter-regional political dialogue and cooperation; enhancing economic ties, trade and investment; engaging on energy as regards a climate neutral economy, connectivity under the Global Gateway and cooperating on the European Green Deal; addressing common security challenges; and strengthening people-to-people contact and mobility. Each priority has a list of actions on how to concretely move this action forward in the framework of the roadmap, and in the area of enhancing economic ties, trade, and investment there are 25 activities which will ensure that economic progress will be achieved.

The EU has adopted its financial guarantee programmes for the five Central Asian countries, focusing on green and digital economic transformation, and on support to small and medium enterprises, as well as strengthening cooperation on digital connectivity. The author conducted interviews with EU experts from the EU institutions and EU delegations in the region, as well as experts from Central Asia, notably Kazakhstan, representing business entities and government institutions, and they spoke on the impact of the EU assistance programmes to Central Asia and Kazakhstan.

According to the experts, EU assistance has been instrumental in various reform processes in the region and in individual countries. At the same time, they highlight that results always depend on the political will of partners and the speed of the reform implementation process, which is not always particularly expedient.

According to the experts taking part in the survey, Kazakhstan shows significant interest in implementing political, social, and economic reforms. Developments in January 2022 – as well as the current geopolitical situation – have only increased the government of Kazakhstan's interest to look into a diversification of their trade and transport routes. Kazakhstan has also been very vocal about the fight against the circumvention of sanctions against Russia and has showed particular interest in cooperating with the EU in this regard.

Institutional changes in the transition from that of a centrally-planned to a market economy were based on the introduction of a liberal economic policy, following the recommendations of the international financial institutions. Institutional reforms, the privatisation and restructuring of large enterprises in all branches of national economy, radical fiscal reform as supported by the reform of tax policy and tax administration as well as the reform of the budgetary process have all been carried out according

to a "policy package" suggested by the "Washington institutions" policy (Blejer, Skreb, 2002, p. 54).

According to the international institutions, reforms remain limited in all CA countries (EBRD, 2019), i.e., in the financial sector, banking, insurance, and capital markets, which are critical areas for investments inflows. Reforms are also still needed in order to improve the infrastructure of roads, railways, and urban transport. To enhance long term competitiveness, CA countries need to accelerate their reforms of the judicial systems and of the civil services, as confirmed by not only the EU experts, but also the experts from Central Asia, notably those from Kazakhstan. Other areas of reforms focus on the fight against corruption, SME support, increased spending on health care, research and education, and improvements in labour skills; jobs in CA countries are mainly in low-productivity occupations.

Kazakhstan hosts huge numbers of migrants from Kyrgyzstan and Tajikistan which are two of the three most remittance-dependent economies in the world (EBRD, 2019). These developments suggest that a new regionalisation is emerging which is largely top-down and a competitive struggle between planned, political processes of creation of regions from the top. These new regional formations are not necessarily in line with the global standards advocated by the EU but often challenge the process of regionalisation. Nevertheless, a great deal of attention from the EU and international organisations' experts has been devoted to corruption, capital out-flows, and money laundering on a global scale (EBRD, 2019).

According to the experts, the national reform agendas of Central Asian governments should better support policies that improve transparency, improve the business environment, guarantee equal access to public services, and enhance governance and institutional quality. The experts also highlighted that despite the fact that the reform process might be slow, joint EU-and-Central-Asian-partner-country efforts are required to improve legislation in the field of business law and regulations. They also highlighted that EU Member State experts have much valuable expertise and experience to share with partner countries in this area. Furthermore, representatives from both the EU and Kazakhstan's authorities called attention to the fact that despite the achieved progress, further reforms are needed to support the modernisation of the public infrastructure network – notably the energy sector – and reinvigorate trade and private investment which would contribute to a diversification of their sources of growth. The importance of open markets to foreign investments, good business, and an attractive investment climate, as well as transparency,

predictability, and proportionality in economic policies as means to diversify the economy and increase foreign direct investments and competitiveness cannot be understated.

The principles of applying EU standards, norms, and regulations are unfortunately very slow in Central Asia, as the region has not been subject to neighbourhood policies nor accession procedures. However, the EU Parliament emphasised that partner countries must comply with international standards of democracy, governance, the rule of law, and human rights (European Parliament Resolution, 2016). The experts from Kazakhstan were asked about the role of the European standards in improving the business environment in Kazakhstan. In their replies, the experts highlighted the importance of bringing Kazakh standards more in line with international standards.

Structural policy weaknesses and different socio-economic realities in Central Asia countries are major challenges to the successful implementation of the EU-CA approach.

Conclusions

The EU is asserting its global role and has a developed system of external action instruments. Furthermore, there is a strong, multilaterally-driven partnership between the EU and international organisations that has an impact on the coherent design and implementation of assistance programmes and initiatives. Coherence between the EU's flagship initiatives and funding instruments has been ensured. The flagship initiatives aim at achieving sustainable economic growth along with economic growth per capita reaching the level of advanced economies while being closely linked with the implementation of the SDGs. Bearing in mind the new global geopolitical order, the countries of the EU and Central Asia are responding to major challenges to the business and social environments, thereby creating a closer partnership between the EU and Central Asia and bringing about additional benefits for both regions. Furthermore, in such turbulent global settings, it is imperative for continuing international cooperation to pursue the fundamentals of the Agenda 2030 as a global sustainable development (SDG) framework. The existing global frameworks could facilitate the identification of pathways to socially, economically, and environmentally sustainable economies and societies.

The relationship between the European Union and Central Asia is of global significance and their ties are likely to increase in the future, especially should one bear in mind Russia's and China's desires to

keep Central Asian countries in their sphere of political and economic influence. More EU external programmes are paramount for productive EU/CA relations and, following their practical implications, should be multidimensional in nature. Any gaps in regional cooperation could impede the development of growth-facilitating infrastructures.

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