Compensation policies across EU countries: Insights from SES data

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Compensation policies across EU countries: Insights from SES data

1. Introduction
2. Compensation policies and Varieties of Capitalism (VoC)
3. Compensation policies and Sectors of Activity
4. Methodology
5. Findings
6. Conclusions

1. Introduction

- Compensation policies result from economic and social processes that are at the root of inequality:

  – Differences between companies produce wage premium leading to workers, with similar occupations and/or similar skills, having different incomes

  – Differences between different occupations inside companies (**vertical dispersion**) lead to certain degrees of hierarchical differentiation and establishment of the internal status quo.

  – Differences in similar occupations (**horizontal dispersion**) inside companies produce differences in workers that could be justified or simply establish and crystalize ways of discriminating workers. Gender gap is an example of one of this effects

1. Introduction

- With contradictory findings, effects of wage premium and dispersion of compensation policies are widely studied (eg. meta-analysis by Mahy, 2011; review by Downes and Choi, 2014)

  – Effects on return on equity of firms; sales growth; product and service quality; individual and team performance; managers and workers turnover;

  – Equity theory and justice theories , tournament theory, and cultural theories are usual theoretical frameworks to explain the contradictory findings.

- Wage dispersion as been explained by legal and collective bargaining negotiations but usually focused on workers wages and not to the compensation policies as a whole

1. Introduction

- Compensation policy patterns
  - Internal differentiation associated with jobs/workers
  - Definition of incentives
  - Relation with market

- ILM – Internal Labour Market
  - Determined by institutional
  - Attached to jobs rather than workers
  - Scope of employer discretion is limited – rules for wage growth
  - Wages associated with tenure, rather than performance evaluation

- ELM – External Labour Market
  - Wages as an adjustment between supply and demand
  - Use of contingent pay (incentives)
  - Flexible work arrangements
  - Competitiveness of wages associated with potential attractiveness

1. Introduction

- According with political economy European countries could be classified according with Varieties of Capitalism – VoC (*Hall and Soskice, 2001; Amable, 2003*).

- Each VoC can be associated with specific institutional settings namely in terms labor market regulations

- Firms respond to market regulations in different ways *(Lassiera, 2007; Suleman et al, 2018)* but reproduce sector activity practices and consequently present differences between sectors of activity *(Shim and Yang, 2018;n Magda et al, 2011; Krueger and Summers, 1988)*

1. Introduction

- With this study we aim to understand specifically:
  - If there is a stable typology of compensation policies and which are the more important characterizing variables
  - How companies design compensation policies across European countries taking into account the regulations associated to each VoC
  - how compensation policies vary within VoC in terms of sectors of activity

2. Compensation policies and Varieties of Capitalism (VoC)
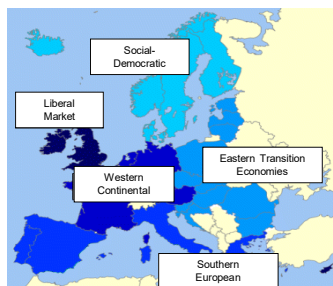
- Clusters of countries have similar labor market regulations
  - Coordinated Economies associated with hierarchical model and centralized industrial relations. Valuation of specific skills
  - Liberal Market, the employer-employee bargaining prevails
  - VoC clusters: Social democratic (SW, NR FL); Continental Europe (FR, GE, BE, NL); Southern Europe (IT;SP;PRT; GR); Market based (UK, IRL); Asian - Amable (2003)

5

3. Compensation policies and Sectors of Activity

- Sectors of activity differ in terms of contracts and regulations
  - Some sectors have longer history of collective bargaining what is expect to reduce dispersion
  - More competitive sectors might present higher internal dispersion and more wage premium comparative to market median values
  - An interaction between Sectors and VoC might be expected. Coordination of wages made by governments or by collective bargaining reduce dispersion of wages, while in competitive economies there is a wage premium in some sectors and higher dispersion
  - Public private dynamic also influence labor regulation (central or by collective bargaining. Privatization could introduce changes on previous labor arrangements

4. Methodology

- Data: Structure of Earning Survey from 2014
- Eighteen countries
  - Social Democratic Economies: Norway, Sweden
  - Southern European Economies: Italy, Portugal, Spain
  - Eastern Transition Economies: Bulgaria, Czech Republic, Hungary, Lithuania, Latvia, Poland, Romania, Slovakia
  - Western Continental Economies: Belgium, France, Germany, Netherlands
  - Liberal Market Economies: United Kingdom

4. Methodology

- Methodological challenges:

  – Research goals need data to capture compensation policies existing in companies

  – Microdata of SES is collected in order to have representative samples by country in terms of occupations, regional employment and sector of activities, but not to define policies

  – To compare rewards ISCO classification could be used but some of them do not correspond to differentiation of rewards

  – Microdata can be aggregated at plant level, but no information about companies is provided. Furthermore, for the sake of disclosure, when companies have the risk of being signalized they are drop out

  – Randomization of the samples in some countries create plants with few observations

  – Dealing with missing values is a major challenge on collecting data allowing to characterize companies' compensation policies

4. Methodology

- Sample

  – To occupations with different ISCO but similar pay levels were merged in new categories

    – In some countries ISCO was coded in two digits others with 3 digits, all were recoded in just one digit

    – ISCO 0 (armed forces) was excluded

    – ISCO 4 (clerical support workers) and ISCO 5 (Service and Sales workers) were merged in a new category

    – ISCO 6 (Skilled agricultural, forestry and fishery workers), ISCO 7 (Craft and related trades workers) and ISCO 8 (Plant and machine operators and assemblers) were merged in a new category)

  – Workers belonging to companies with less than 50 workers were excluded, because these companies tend not to have a systematized compensation policy

  – Before of calculating aggregated indexes, extreme values were excluded from the merged ISCO categories (percentiles 2.5% and 97,5%)

  – Indexes were calculated at individual level and than aggregated to plant level

  – Plants indexes were used as proxies of companies' compensation policies

4. Methodology

- Sample

	Original Employees	Employees after extreme values	Plants + 15 Observ
Norway	1.494.178	1360288	20.078
Sweden	261.559	240124	2.621
Italy	189.221	176998	1.857
Portugal	85.201	80527	1.258
Spain	209.436	198257	5.200
Bulgaria	200.680	186675	3.447
Czech Republic	2.202.636	2047096	9.670
Hungary	882.373	748305	8.558
Lithuania	44.952	39416	707
Latvia	172.584	149487	2.704
Poland	723.706	656039	11.683
Romania	286.718	260420	7.943
Slovakia	887.052	820088	5.064
Belgium	140.324	133320	4.111
France	267.383	205916	3.386
Germany	1.020.187	965955	21.998
Netherlands	155.625	140747	1.296
United Kingdom	175.477	157120	611
	9.399.292	8.566.778	112.192

4. Methodology

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| Variable name	Variable specification	Information provided by the variable
Pay Structure		
Between job levels dispersion	Ratio 90/10 of total rewards in the company	Differentiation between job level – measure of vertical dispersion
Within job levels dispersion	Average of coefficient of variation of total earnings in the job level	Internal equity controlling for job level – measure of horizontal dispersion
Overall dispersion	Coefficient of variation of total earnings in the company	Overall dispersion of wage distribution. Degree of asymmetry of wages
Pay Level		
Differential toward market median	Average differential of company gross hourly value comparatively to national market median within job level	Position of firm vis-à-vis the competition in the general labour market of the company country
Differential toward industry median	Average differential of company gross hourly value comparatively to industry median within job level	Position of firm vis-à-vis the direct competitors at industry level

4. Methodology

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Variable name	Variable specification	Information provided by the variable
Pay definition		
Entry level	Ratio between gross hourly value workers less than 3 years by gross hourly value workers with more or equal than 3 years tenure	Differential from initial jobs and more tenure
Correlation hour value / tenure	Correlation between gross hourly value and tenure (years)	Value attributed to tenure
Correlation hour value / education	Correlation between gross hourly value and years of schooling	Value attributed to general skills
Correlation hour value / job level	Correlation between gross hourly value and job level (ISCO one digit)	Value attributed to hierarchy
Pay flexibility		
Wage cushion	Average of the relative value (%) between annual bonus and annual total rewards (gross earnings +bonus)	Incentive devices
Overtime flexibility	Average of the relative value (%) between monthly overtime and shiftime payments and monthly gross earnings	Overtime importance

4. Methodology

- Statistical Analyis
  - Use Fuzzy clustering in order to define a typology
    - Fuzzy cluster offers 2 or more prototypes that hypothetically profile fuzzy clusters, and the membership degree in the different clusters for every plant of the sample
    - Use of archetypal analysis (Cutler & Breiman, 1994), it seek the more extreme profiles prevailing in the data
    - The best solution emerged with a fuzzy 4 partition
  - Use Tobit regression to evaluate the association between Clusters VoC and Sectors of Activity in order to disentangle the possible relations with these two variables

4. Methodology

- Tobit Analysis:

  Links between clusters order, VoC and sectors of activity
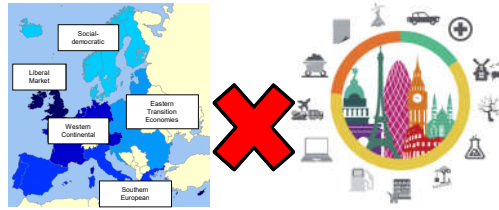
VoC	Countries
Social-Democratic	Sweden, Norway
Eastern Transition Economies	Bulgaria, Czech Republic, Hungary, Lithuania, Latvia, Poland, Romania, Slovakia
Southern Economies	Italy, Portugal, Spain
Western Continental Europe	Belgium, France, Germany, Netherlands
Liberal Market Economies	United Kingdom

NACE Class	NACE
Industry	Mining, Manufacturing, Construction
Infrastructures	Electricity, Water, Transports
Retail	Retail
Accommodation	Accommodation
Financial	Finance, Real State
Professional Services	Professional, IT, Administrative, Other services
Community Services	Education, Health, Arts
Public Administration	Public Administration

40 pairs VoC x NACE Class

5. Findings

- Estimates of fuzzy 4 partition clusters

	Cluster 1 ILM Undifferentiated	Cluster 2 ILM Qualified	Cluster 3 Competitive	Cluster 4 Incentive
Between job levels dispersion	1,72	2,32	2,21	4,16
Within job levels dispersion	0,16	0,18	0,23	0,28
Overall dispersion	0,21	0,32	0,29	0,39
Differential toward market median	0,98	1,01	1,49	1,13
Differential toward industry median	0,98	1,01	1,41	1,12
Entry level	0,93	0,88	0,88	0,82
Correlation hour value / tenure	0,23	0,25	0,24	0,29
Correlation hour value / education	0,27	0,63	0,29	0,40
Correlation hour value / job level	0,35	0,70	0,36	0,44
Wage cushion	0,03	0,05	0,06	0,06
Overtime flexibility	0,04	0,04	0,04	0,03

5. Findings

- Estimates of fuzzy 4 partition clusters

	Cluster 1 ILM Undifferentiated	Cluster 2 ILM Qualified	Cluster 3 Competitive	Cluster 4 Incentive
Total sample	52.8	21.6	12.8	12.9
Social-democratic (SDE)	85.4	7.6	5.2	1.7
Southern European (SEC)	45.6	14.5	23.5	16.5
Eastern Transition Economies (ETE)	41.7	34.1	15.3	8.9
Western Continental European (WE)	48.1	14.9	11.6	25.4
Liberal Market Economies (LME)	17.8	16.9	16.7	48.6

4. Methodology

- Estimates Tobit Analysis

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Path 1234 (68.2%)
. tobit pos1234 i.VoC_Nace
Tobit regression                          Number of obs   =    108099
                                          LR chi2(52)     =   20718.12
                                          Prob > chi2     =    0.0000
Log likelihood = -16656.133               Pseudo R2       =    0.3835
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Estimate	Social Democr.	Eastern Transit.	Southern	Western Continent	Liberal Market
-0.37076	Comm Srv				
-0.37004	Pub. Adm				
-0.33842	Accomm				
-0.32045	Prof Serv				
-0.31530	Infrastr				
-0.29053	Retail				
-0.28423	Industry				
-0.28386		Accomm			
-0.27080	Financial				
-0.26921			Pub. Adm		
-0.25800			Accomm		
-0.25527				Pub. Adm	
-0.22977		Retail			
-0.22283		Industry			
-0.22210		Infrastr			
-0.21030			Infrastr		
-0.19397		Comm Srv			
-0.19183		Prof Serv			
-0.17458		Pub. Adm			
-0.16747			Prof. Serv		

Estimate	Social Democr.	Eastern Transit.	Southern	Western Continent	Liberal Market
-0.15646			Industry		
-0.15233			Retail		
-0.14689		Financial			
-0.13441				Comm Srv	
-0.11301			Financial		
-0.10188				Comm Srv	
-0.09287			Infrastr		
-0.07456					Infrastr
-0.07294					Pub. Adm
-0.04851				Prof Serv	
-0.04802				Industry	
0.00000					Industry
0.03415					Retail
0.04150					Financial
0.07186				Accomm	
0.07786					Financial
0.20668					Comm Srv
0.22811					Retail
0.25709					Prof Serv
-0.15646					Accomm

6. Conclusions

- Typology of Compensation Policies

  – Surpass the dichotomy ILM / ELM, evidencing that moderate dispersion of ILM could exist based on skills (cluster 2), and ELM differentiates competiveness (cluster 3) from differentiation associated with high dispersion (cluster 4)

- Compensation Policies between and within VoC

  – Differentiation and competiveness is more associated with VoC than with sectors of activity

  – Differences within VoC could be partially explained by sectors' characteristics

    – Public Administration tends to be closer to ILM extreme, while Financial to Competiveness and Incentives clusters

    – Industry and Retail tend to be closer

    – Communitarian Services in Transitional and Southern Economies seem to be more related with competiveness probably derived from Privatization policies

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Thanks for your attention !