

**INDUSTRIAL RELATIONS SYSTEMS AND  
WELL-BEING IN OECD COUNTRIES:  
ANTECEDENT FACTORS OF WELL-BEING AND  
HOW THEY DIFFER ACROSS NATIONS**

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**Dong-One Kim**  
Korea University

**Yoon-Ho Kim**  
Korea University of Technology and Education



# INTRODUCTION

- **What is an antecedent factor of people's level of well-being?**
  - Most political and ideological debates are ultimately focused on the construction of appropriate policies and the enhancement of people's quality of life.
- **The characteristics of an IR system may be a considerable antecedent of various types of well-being.**
  - Previous studies considered the economic, social and political antecedents of well-being .
  - Industrial relations systems, as subsystems of a national system, are an important factor that influence a nation's quality of life and economic conditions, including income distribution, hours worked per day or week, and employment stability.
- **A two-dimensional industrial relations systems approach**
  - This study examines two ultimate goals of industrial relations, efficiency and equity (Kim, Kim, Voos, Suzuki and Kim, 2014), to understand international differences in industrial relations systems.



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## Objective and subjective well-being

- **“Well-being” means “the state of being well, happy, or prosperous” (Webster’s New World Dictionary, 2015)**
  - Since the term is a multi-dimensional construct, it has been considered difficult to measure.
  - we chose the classification methods of objective well-being (OWB) and subjective well-being (SWB) for our measurement
- **OWB is an index measurement of material well-being tied to financial and economic status..**
  - Economic well-being can be defined according to GDP per capita because it represents people’s general desire to maximize their income and expenditure, which enables them to enhance their opportunities and experience.
- **SWB measures track how people perceive happiness, and SWB represents a non-material well-being index of the “state of mind” of an economic actor**
  - According to happiness researchers who argue that SWB is a valid alternative quality of life index, GDP is only an indicator of market production which does not reliably represent people’s quality of life.



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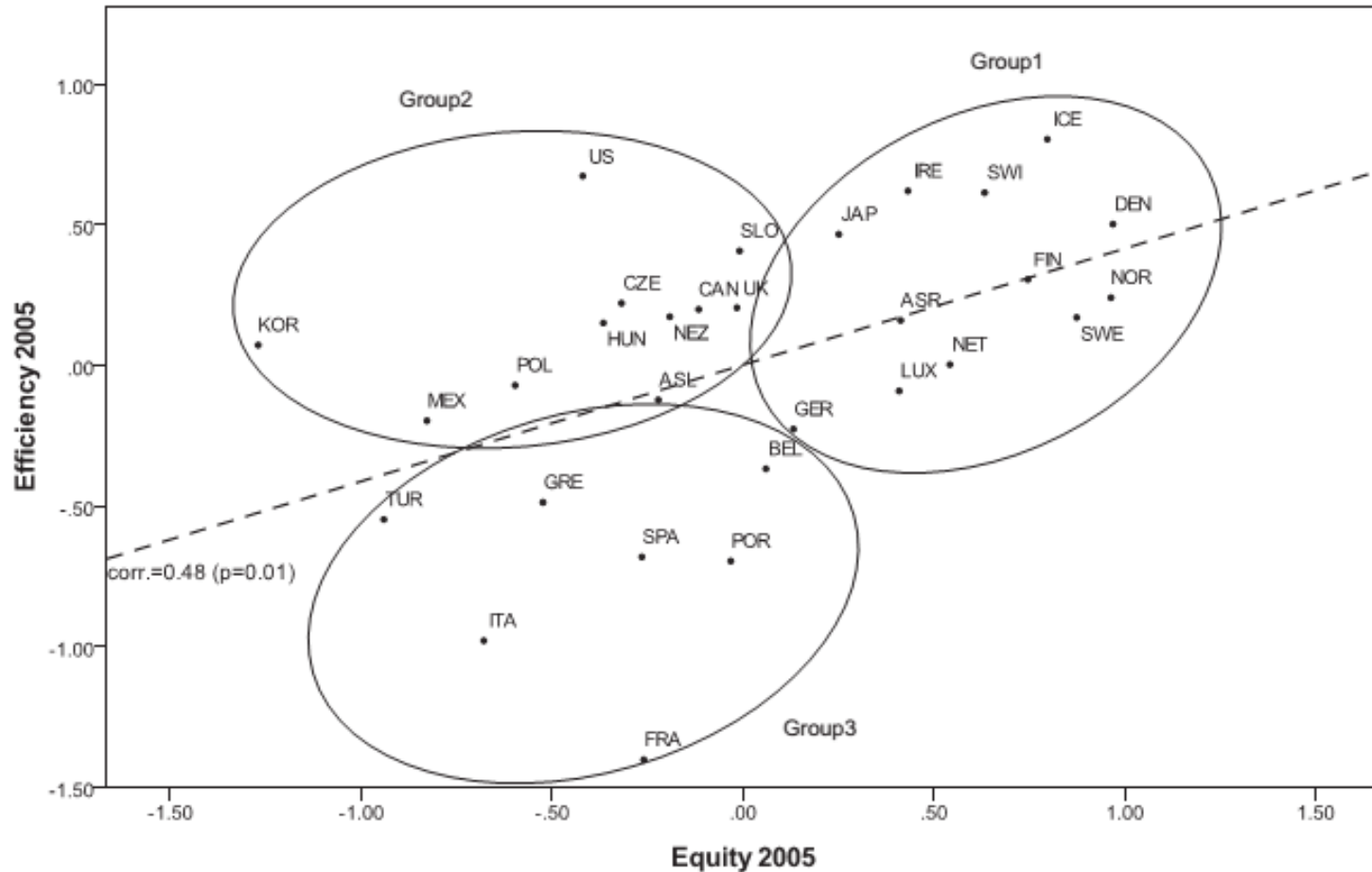
# Two-dimensional approach of IR

- **A country's state of industrial relations can be assessed with a two dimensional index of efficiency and equity (Kim et al. 2014)**
  - This methodology sees industrial relations' two core objectives as efficiency and equity (Barbash, 1984; Budd 2004; Meltz, 1989).
- **Efficiency : maximizing output with a minimum amount of input**
  - It is normally an important objective pursued by employers.
  - Efficiency of workers and labor unions are crucial to maintain a company's profitability and sustainability.
  - An organization, industry or country with high efficiency in industrial relations can be summarized as free to utilize human resources efficiently, with workers circulating freely and labor unions supporting the minimization of human resources transaction costs .
- **Equity : the satisfaction of both procedural /distributive justice**
  - A country with a high level of equity in industrial relations can be summarized as enjoying a high level of social consultation on labor rights and human dignity, and a system of distributive justice that is solidly institutionalized between labor unions and the state



# Two-dimensional approach of IR

Graphic Illustration of IR Systems of OECD Countries 2005.



# Research Questions

- **Research Question 1 : Direct effects**

- How does a country's level of equity and efficiency in industrial relations affect its residents' objective well-being and subjective well-being? .

- **Research Question 2 : Interaction effects**

- There has been a normative consensus that efficiency and equity in industrial relations are complements, not alternatives (Meltz, 1989)
- How do the interaction effects of equity and efficiency in industrial relations affect the objective and subjective well-being of a country's residents?
- In other words, should a country pursue these two dimensions together to increase its residents' level of well-being?



# Sample

- **Our dataset consists of data from 30 OECD countries and from 1991 to 2013.**
  - We collected empirical data for our quantitative study from various international organizations (e.g. OECD , UN).
  - We developed our data by calculating the average value of each five-year interval since 1991. In other words we studied four waves (1991-1995, 1997-2001, 2003-2007, 2009-2013).
- **Why we studied OECD countries exclusively**
  - The OECD provides abundant data for each of its member countries, including data on economic and societal phenomena.
  - We sought to minimize the problem of containing outliers, which might cause bias.

# Measurements

- **Dependent variables**

- GDP per capita: objective well-being
- Overall life satisfaction index , suicide rates: subjective well-being

- **Independent variables**

- Nine efficiency indicators (e.g. freedom of dismissal, cooperative labor-employer relations, growth rates of labor productivity, and reciprocal scores of strikes and lockouts)
- Fifteen equity indicators (e.g. union density, public social expenditures, collective bargaining coverage, annual hours actually worked per person, and income distribution).

- **Control variables**

- Four control variables: alcohol consumption, political freedom, portion of a nation's population in rural regions, and percentage of the population over 65 years of age.



# Measurements : Results of factor analyses

<b>Input</b>	Variables	Factor1	Fator2
Efficiency	Freedom of dismissal		.614
	Freedom to employ temporary workers		.804
	Literacy rate		.792
Equity	Union density	.669	
	Ratification status of ILO fundamental conventions	.653	
	Expenditure on ALMP	.808	
	Public social expenditures	.797	
	Centralization of wage-setting institution	.781	
	Coordination of wage-setting institution	.674	
Eigen value		3.58	2.14
Proportion of variance accounted for		39.77	23.77
<b>Process</b>	Variables	Factor1	Fator2
Efficiency	Industrial relations	.905	
	Labor-employer relations	.875	
Equity-	Collective bargaining coverage		.822
	Wage bargaining level		.843
	Trade union rights index		.465
Eigen value		1.96	1.88
Proportion of variance accounted for		38.26	37.52
<b>Output</b>	Variables	Factor1	Fator2
Efficiency	Labor productivity growth rate		.407
	Economic growth rates		.688
	Strikes and lockouts*		.755
	Workers involved*		.771
Equity	Injuries: deaths*	.545	
	Average hours worked per person*	.750	
	Gini coefficient*	.735	
	Income distribution	.447	
	Employment rates	.691	
	Unemployment replacement rates	.680	
Eigen value		2.83	2.22
Proportion of variance accounted for		28.3	22.23

# Descriptive statistics

Variable		Mean	Std. Dev.	Min	Max	Observations
GDP per capita	overall	27007.66	12738.64	6490.58	85956.61	N = 120
	between		10023.01	10795.89	60412.38	n = 30
	within		8021.53	2883.04	52551.89	T = 4
Suicide rate	overall	13.57	6.30	2.03	37.76	N = 117
	between		6.01	2.03	29.45	n = 30
	within		2.63	1.85	23.60	T = 4
Life satisfaction	overall	6.67	0.87	4.70	7.80	N = 60
	between		0.88	4.70	7.80	n = 30
	within		0.00	6.67	6.67	T = 2
alcohol consumption	overall	9.31	3.03	1.34	15.44	N = 120
	between		2.99	1.49	13.71	n = 30
	within		0.70	7.22	11.25	T = 4
political constraint	overall	1.20	0.58	1.00	4.00	N = 120
	between		0.53	1.00	3.25	n = 30
	within		0.23	0.30	2.30	T = 4
rural population	overall	24.96	10.65	2.60	48.90	N = 120
	between		10.66	2.85	44.18	n = 30
	within		1.63	19.34	30.34	T = 4
age65 population	overall	14.17	3.49	4.50	23.00	N = 120
	between		3.36	5.18	18.73	n = 30
	within		1.077306	9.97	18.57	T = 4

# GLS regression analysis of GDP per capita in 30 OECD countries

	Coef.	Std. Err.		Coef.	Std. Err.		Coef.	Std. Err.	
constnat	38000.78	(8060.79)	***	27495.43	(8600.60)	***	27212.67	(8677.25)	***
alcohol consumption	-740.09	(363.83)	**	-576.89	(357.52)		-561.89	(362.75)	
political constraint	-5777.69	(2421.38)	**	-3315.67	(2605.15)		-3645.46	(2938.42)	
rural population	-432.85	(92.10)	***	-442.23	(92.00)	***	-442.86	(92.02)	***
age65 population	961.30	(391.91)	**	1403.89	(441.54)	***	1439.28	(464.93)	***
<b>efficiency index(A)</b>				<b>2890.87</b>	<b>(1016.81)</b>	<b>***</b>	<b>2856.98</b>	<b>(1026.13)</b>	<b>***</b>
equity index(B)				-1171.79	(1335.74)		-1297.22	(1432.16)	
(A)x(B)							366.53	(1512.03)	
Log likelihood	-1279.37			-1275.25			-1275.22		
Wald chi2(6)	61.10	***		73.95	***		74.04	***	
Number of obs.	120			120			120		

Standard errors in brackets. \*\*\*, \*\* and \* : significant at 1%, 5% and 10%, respectively.

# GLS regression analysis of suicide rate in 30 OECD countries

	Coef.	Std. Err.		Coef.	Std. Err.		Coef.	Std.Err.	
constnat	14.97	(4.65)	***	9.14	(4.87)	*	8.91	(4.95)	*
alcohol consumption	0.73	(0.21)	***	0.86	(0.20)	***	0.87	(0.21)	***
political constraint	-2.72	(1.56)	*	-0.82	(1.61)		-0.99	(1.72)	
rural population	-0.04	(0.05)		-0.03	(0.05)		-0.03	(0.05)	
age65 population	-0.29	(0.22)		-0.15	(0.25)		-0.12	(0.26)	
<b>efficiency index(A)</b>				<b>1.89</b>	<b>(0.57)</b>	***	<b>1.87</b>	<b>(0.57)</b>	***
equity index(B)				0.20	(0.74)		0.12	(0.80)	
(A)x(B)							0.24	(0.87)	
Log likelihood	-371.82			-366.37			-366.33		
Wald chi2(6)	19.45		***	32.79		***	32.89		***
Number of obs.	117.00			117.00			117.00		

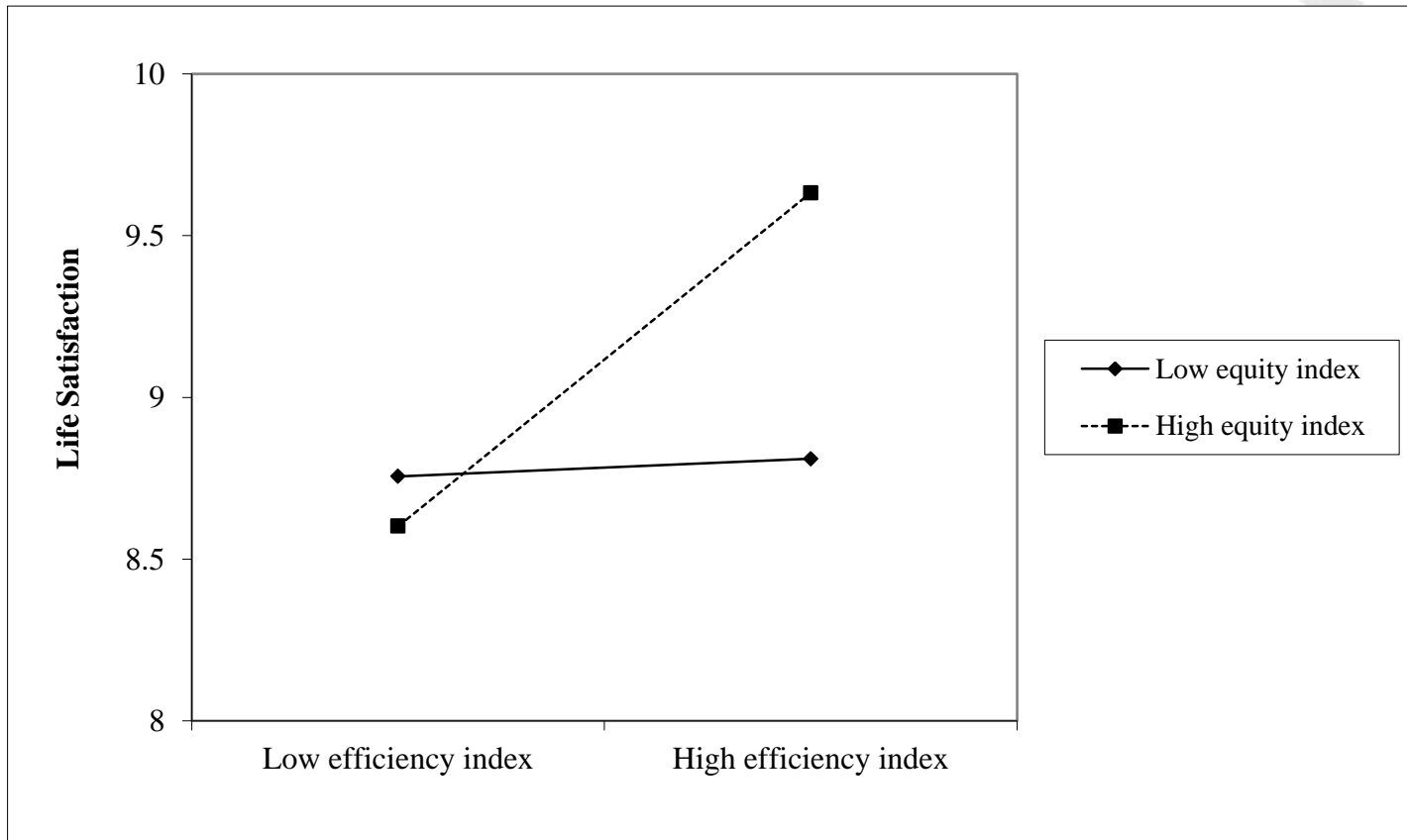
Standard errors in brackets. \*\*\*, \*\* and \* : significant at 1%, 5% and 10%, respectively.

# GLS regression analysis of life satisfaction in 30 OECD countries

satisfaction	Coef.	Std. Err.		Coef.	Std. Err.		Coef.	Std. Err.	
constnat	10.32	(0.73)	***	9.00	(0.69)	***	8.95	(0.66)	***
alcohol consumption	-0.08	(0.04)	**	-0.03	(0.03)		-0.04	(0.03)	
political constraint	-0.86	(0.26)	***	-0.18	(0.26)		-0.48	(0.27)	*
rural population	-0.05	(0.01)	***	-0.04	(0.01)	***	-0.04	(0.01)	***
age65 population	-0.05	(0.03)	*	-0.06	(0.03)	*	-0.03	(0.03)	
<b>efficiency index(A)</b>				<b>0.32</b>	<b>(0.07)</b>	***	<b>0.27</b>	<b>(0.07)</b>	***
<b>equity index(B)</b>				<b>0.25</b>	<b>(0.10)</b>	**	<b>0.17</b>	<b>(0.10)</b>	*
<b>(A)x(B)</b>							<b>0.24</b>	<b>(0.10)</b>	**
Log likelihood	-55.44			-44.92			-41.92		
Wald chi2(6)	61.44	***		112.46	***		130.58	***	
Number of obs.	60			60			60		

Standard errors in brackets. \*\*\*, \*\* and \* : significant at 1%, 5% and 10%, respectively.

# Interaction effects of efficiency and equity index on life satisfaction





# CONCLUSION

- **Two important implications**

- **A double-edged sword effect:** efficiency in industrial relations increases objective well-being among residents in a country, as measured by GDP per capita, but it also increases a country's suicide rate, which is a component of subjective well-being.
- **An interaction effect in Balancing efficiency and equity:** our evidence confirms a previously-untested but assumed relation between industrial relations systems and well-being (life satisfaction)

- **Limitations and Further Research**

- To estimate the variation of subjective well-being (e.g. happiness) exactly, we need to employ a multi-level modeling approach that includes individual, household and regional-level variables simultaneously.

