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## **Research Report**

Creative Workers: Employment Status and Wage Premiums

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# **Creative Workers: Employment Status and Wage Premiums**

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"Creative workers—defined here as those with jobs that require creative skills—made up around 12 percent of the total Korean workforce in 2012. While the number of creative workers increased overall between 2008 and 2012, the increase was particularly noticeable among technical creative workers in cultural industries and cultural creative workers in ICT industries. This reflects the growing demand for convergence of cultural creativity and technical creativity. At the same time, an analysis of the wage effect of creative occupations shows that cultural creativity (unlike technical creativity) is systematically undervalued. In order to create new value in creative economy, it is necessary to understand the power of cultural content and stories and encourage their use."

## I. Introduction

The driving force behind the creative economy paradigm is the idea that the creativity of the individual infuses vitality into the overall economy, expanding the growth engine and creating new jobs. That is to say, innovation is produced when new ideas and creative concepts are reflected in the various components of the economy, which leads to the creation of more added values. This innovation, in turn, leads to the expansion of consumption and jobs throughout several stages of the value chain. In the interest of stimulating a creative economy, restricting our examination of its operation and output to a specific area of creative industries might not be adequate for understanding the creative economy as a whole.

This paper analyzes the characteristics and current situation of the creative economy in Korea, developing definitions for creative occupations and creative workers that are based on creative skills.

<sup>\*</sup> This paper was adapted from Soo Kyeong Hwang's *The Creative Economy and Job Creation: Focusing on Creative Employment*, Policy Research Series, 2014-01, Korea Development Institute, May 2014.

<sup>\*</sup> This is the translated version of KDI FOCUS released on July 15, 2014.

The concept of creative
workers is defined
independently from
industry, which makes
it appropriate for
analyzing the role and
results of creative labor
throughout the entire
economy.

In its analysis of the current situation and characteristics of the creative economy in Korea, this paper adopts definitions of creative occupations and creative workers that are based on creative skills. This approach is similar to that taken by Florida (2002), who viewed the creative economy as an economic structure in which creative capital is accumulated and produces added value through the work of the creative class in a variety of fields. In this view, creative skills and creative workers do not presume a specific industry but are rather defined independently of their professional area, providing a more appropriate analytical framework for examining the roles and results of creative labor in the larger economy.

This paper departs from previous definitions of creative industries and creative occupations, which have relied on a dichotomous approach that simply distinguishes creative from non-creative. This paper also explicitly differentiates between cultural creativity and technical creativity, analyzing the unique characteristics of the two elements and how they are combined in the formation of the creative economy in Korea.

## II . A Definition of Creative Workers Based on Creative Skills

Florida's thesis is significant in the sense that it drew attention to the importance of the creative class in every industry and attempted to define the role of that class. However, the creative class discussed by Florida is in fact closer in nature to knowledge workers, since it includes professionals in nearly every area. Florida's work has also been criticized for failing to provide a clear definition of the creative economy (UNCTAD [2010]). After this, DCMS (2011) and Creative Skillset (2013) offered definitions for creative occupations that focused on the jobs that play key roles in creative industries, but the standards offered here have a weak grounding in logic and have limited application to the entire job market.

In this paper, creative occupations are defined as jobs that demand creative skills. Creative skills are job skills that approach problems from a new or different perspective and contribute to correcting flaws and creating new value. Toner (2011) regards creative skills as "skills for innovation". NESTA (2013) explains further, arguing that creative skills are connected with resolving problems both big and small, and that such skills precede new ideas and the collaborative processes that can bring these ideas to life. NESTA attributed the following five characteristics to creative skills:

skills that approach
problems from a new
or different perspective
and contribute to
correcting flaws and
creating new value.

Creative skills are job

- 1) Novel process
- 2) Mechanization resistant
- 3) Non-repetitiveness/non-uniform function
- 4) Creative contribution to the value chain
- 5) Interpretation, not mere transformation

<sup>1)</sup> In Florida (2002)'s analysis, the creative class accounted for 30% of the American workforce (the key creative class accounted for 11.7%).

<Table 1> Work Function: Types and Ranks

Level	Data (FD)	People (FP)	Thing (FT)
8	Synthesizing	Mentoring	Setting up
7	Coordinating	Negotiating	Precision working
6	Analyzing	Instructing	Operating-controlling
5	Compiling	Supervising	Driving-operating
4	Computing	Diverting	Manipulating
3	Copying	Persuading	Tending
2	Comparing	Speaking-signaling	Feeding-off bearing
1	-	Serving	handling
0	Not related	Not related	Not related

The data used to create an operational definition for creative skills came from the ranking of work functions for each job listed in the *Korean Job Dictionary*.<sup>2)</sup> This data assigns a rank to the function associated with 'data', 'people', and 'thing' characterizing the duties of workers going about their jobs, with higher ranks implying a more complicated function (see Table 1).<sup>3)</sup>

According to NESTA's criteria, creative occupations are those that meet specific criteria within each field: either 'synthesizing' or a higher-ranked function in the data area, either 'negotiating' or a higher-ranked function in the people area, and 'setting up' in the things area. However, in the case of functions connected with people, the creativity of the worker can also play an important role in the four functions from 'instructing' through 'persuading' (instructing, supervising, diverting, persuading) when understood in a broader sense. That is, rather than being a hierarchy of functions, these functions are all associated with a specific area of functions. If these skills were included in the definition of creative occupations, the term would be applicable to most jobs in the market, leading to the conclusion that these functions would be an inappropriate independent standard for identifying creative occupations.<sup>4)</sup> Therefore, of the occupations that typically incorporate these unused functions, this study only included the three most typical cultural jobs (Painters, Photographers and Performing Artists; Sports and Recreation Related Professionals; and Managers and Other Culture and Art Related Workers) and the three most typical ICT jobs (Information System Administrators; Telecommunications and Broadcast Transmission Equipment Technicians; and Video and Telecommunications Equipment Related Fitters and Repair People).

After defining creative occupations using this method, the occupations were categorized based on the following criteria: those in which cultural elements were deemed to be important

Cultural creative
occupations are defined
as jobs that rely on
cultural creativity,
while technical creative
occupations are defined
as jobs that rely on
technical creativity.

<sup>2)</sup> After the first edition was published in a single volume in 1986, three more single-volume editions of the Korea Job Dictionary were released in 1995, 2003, and 2012. The fourth edition includes information about 5,385 jobs based on KECO (Korea Employment Classification Occupations). In 2013, the book added jobs in the areas of culture and the arts to provide detailed information about a total of 5,501 jobs.

<sup>3)</sup> However, the functions associated with people imply various aspects of relationships rather than a hierarchy of functions. As such, applying a hierarchical relationship to these functions is somewhat limiting.

<sup>4)</sup> For example, the education function is required by most teachers, supervision is required by most managers, and persuasion is required by most office workers.

< Table 2> Types and Related Job Codes (KSOC) for Creative Occupations

Cultural creative occupations (11)	Technical creative occupations (13)	Creative skill occupations (20)
134 Culture, art, design and moving image related managers 212 Humanities and social science professionals 248 Religion related workers 273 Product planning, public relations, and survey professionals 281 Writers, journalists, and publishing professionals 282 Curators, librarians, and archivists 283 Drama, film, and moving image professionals 284 Painters, photographers, and performing artists 285 Designers 286 Sports and recreation related professionals 289 Managers and other culture and art related workers	135 Information and communications related managers 211 Biological and natural science related professionals 221 Computer hardware and telecommunication engineering researchers 222 Information system development professionals 223 Information system administrators 224 Telecommunications and broadcast transmission equipment technicians 231 Construction and civil engineering engineers and technicians 232 Chemical engineers and technicians 233 Metal and material engineers and technicians 234 Environment engineers and technicians 235 Electrical electronic and mechanical engineers and telectonicans 236 Video and telecommunications equipment related fitters and repair people 236 Electrical and electronic equipment operators	111 Legislators, senior government officials, and senior officials of public organizations 112 Senior corporate officials 120 Administrative and business support managers 131 Research, education, and legal related managers 132 Insurance and finance managers 133 Health and social service related managers 139 Other professional services managers 141 Construction, electricity, and production related managers 151 Sales and transport managers 159 Other sales and customers service managers 241 Medical specialists 242 Pharmacists and oriental pharmacists 243 Nurses 244 Dieticians 251 College professors and instructors 259 Other teaching professionals 261 Legal professionals 262 Administration professionals 271 Personnel and business professionals 271 Personnel and business professionals

as cultural creative occupations; those in which technical elements are deemed to be important as technical creative occupations; and those which qualify as creative skill occupations. The job code for each type of creative occupation is shown in <Table 2>.

#### **III** Characteristics and Current Employment Status of Creative Workers

If we assume that creative workers are those working in creative occupations, Korea's creative workforce numbered 2.94 million people (12.2 percent) as of 2012, and approximately 300,000 of creative workforce are increased of over the previous four years (see Table 3). The largest category in the creative workforce is technical creative workers, with 1.17 million workers, who account for around 40 percent of the creative workforce. Cultural creative workers and creative skill workers numbered 0.71 million and 1.06 million, respectively. In terms of the rate of employment increase, creative occupations are increasing overall, with cultural creative workers showing the most noticeable (albeit small) growth trend.

Just as with creative occupations, for this analysis, the creative industries have been reconfigured by explicitly distinguishing between cultural elements and technical elements (see Figure 1). Cultural industries were defined using the cultural industry categorization by UNESCO (2009), and ICT industries were defined as the copyright industries (that is, those which rely on copyrights to sustain themselves) by the World Intellectual Property Organization (2003), excluding those identified as cultural industries. Other industries related to culture and partial copyright industries were categorized as related industries. Of these, only cultural industries and ICT industries are understood to be creative industries in the strict sense of the term (see Appendix Table 1).

In 2012, there were 2.94 million creative workers in Korea, accounting for 12.2 percent of total employment.

This figure grew by around 300,000 in the previous four years.

The growth trend was particularly noticeable among cultural creative

workers.

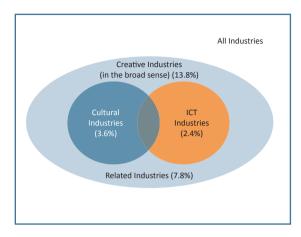
<Table 3> Number of Creative Workers by Type and Changes in That Number

(Unit: 1.000 People. %)

(6.11.1.1)0001 (0.11.1)								
		7008   1 7017   1		(% of	Change			
				total)	Variation	(% of total)	[Rate of increase]	
	Creative occupations	2,641	(11.5)	2,940	(12.2)	300	(23.8)	[11.3]
	Cultural creative occupations	586	(2.6)	706	(2.9)	120	(9.5)	[20.4]
	Technical creative occupations	1,073	(4.7)	1,172	(4.9)	98	(7.8)	[9.2]
	Creative skill occupations	981	(4.3)	1,062	(4.4)	81	(6.5)	[8.3]
	Non-creative occupations	20,227	(88.5)	21,186	(87.8)	959	(76.2)	[4.7]
	Total	22,867	(100)	24,126	(100)	1,259	(100)	[5.5]

Source: Statistics Korea, Regional Employment Survey, raw data for each year.

[Figure 1] Reconfiguration of Creative Industries



Note: The percentage in parentheses is the number of workers from Statistics Korea's Regional Employment Survey for 2012.

< Table 4> Number of Creative Workers and Percentage of Total (2012)

(Unit: 1,000 People, %)

			Creative o	Non avantiva				
		Cultural creative Technical creative occupations		Creative skill occupations	Subtotal	Non-creative occupations	Total	
	Cultural industries	282 (32.4)	310 (35.6)	7 (0.9)	599 (68.8)	271 (31.2)	870 (100.0)	
Creative industries	ICT industries	24 (4.2)	134 (23.2)	9 (1.6)	167 (29.0)	410 (71.0)	577 (100.0)	
	Related industries	76 (4.0)	12 (0.6)	43 (2.3)	131 (6.9)	1,763 (93.1)	1,893 (100.0)	
Non-creative industries		324 (1.6)	716 (3.4)	1,003 (4.8)	2,043 (9.8)	18,742 (90.2)	20,786 (100.0)	
То	otal	706 (2.9)	1,172 (4.9)	1,062 (4.4)	2,940 (12.2)	21,185 (87.8)	24,126 (100.0)	

Source: Statistics Korea, Regional Employment Survey, raw data for 2012.

The distribution of creative workers by industry type is examined in <Table 4>. Around 900,000, or 30 percent, of creative workers are working in creative industries (in the broad sense of the term). By industry, 68 percent of those employed in cultural industries and 29.0 percent of those employed in ICT industries are creative workers. However, creative workers account for only 6.9 percent of workers in related industries and 9.8 percent of workers in non-creative industries.

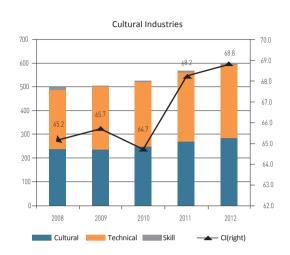
The percentage of workers in a given industry that would be classified as creative workers can be understood as roughly equivalent to the creative labor added to that industry or to that industry's potential for innovation. This ratio was defined as 'Creative Intensity' and was tracked in terms of how it changed for each industry type between 2008 and 2012, the results of which are found in [Figure 2]. While creative intensity is increasing rapidly in cultural industries and ICT industries, creative intensity in related industries is sitting at a standstill, even lower than in non-

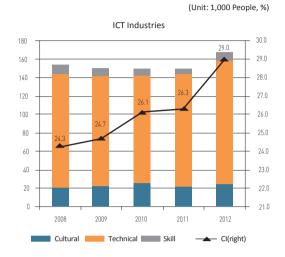
Around 30 percent of creative workers, or 900,000, are employed in creative industries. In ICT industries, 68.8 percent of workers in cultural industries and 29.0 percent of workers are creative workers.

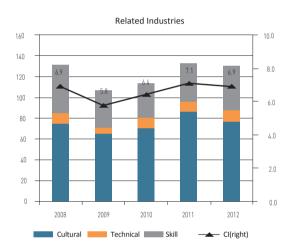
The term creativity intensity is defined as the percentage of creative workers in each industry, and can be said to represent that industry's potential for innovation.

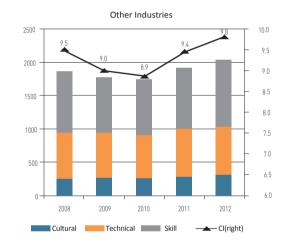
[Figure 2] Change in Creative Workers and Creative Intensity for Industry Type

Creative intensity continues to increase in cultural industries and ICT industries, but creative intensity in related industries has plateaued at a very low level (6~7 percent).









Note: Creative intensity (CI) is defined as the percentage of workers in an industry who are creative workers. Source: Statistics Korea, Regional Employment Survey, raw data for each years.

creative industries. This means that the demand for innovative ability has increased rapidly in cultural industries and ICT industries but has failed to do so in related industries.

<Table 5> shows the rate of increase in employment in the categories of creative industries and creative occupations between 2008 and 2012. The data suggests a marked increase in cultural creative occupations and technical creative occupations, considering the 5.5 percent total rate of increase in employment over the same period.

By industry, employment in cultural industries was found to increase noticeably (14.2 percent), while employment in ICT industries decreased (-9.3 percent). What bears further examination is that the most marked increases were seen in technical creative workers in cultural industries (23.3 percent) and cultural creative workers in ICT industries (14.2 percent), showing that convergence is gradually increasing between cultural creativity and technical creativity.

There was a rapid increase in demand for technical creative workers in cultural industries and for cultural creative workers in ICT industries.

< Table 5 > Rate of Increase in Employment by Categories of Creative Industries and Creative Occupations

(Unit: %)

			Creative occupations	Non overtive	Total	
		Cultural creative occupations	Technical creative occupations	Creative skill occupations		
	Cultural industries	18.8	23.3	-9.9	2.3	14.2
Creative industries	ICT industries	14.2	9.9	-19.0	-15.0	-9.3
	Related industries	1.5	25.5	-8.0	-0.5	-0.5
Non-creative industries		28.1	3.7	9.6	5.8	6.2
Total		20.4	9.2	8.3	4.7	5.5

Source: Statistics Korea, Regional Employment Survey, raw data for each years.

## IV. Wage Effects of Creative Labor

If creative workers are to have the incentive to actually make a creative contribution to their work, they must be given appropriate compensation (wages) for this labor. In addition, since rational business owners pay wages according to workers' productivity, wages can be seen as a reflection of this productivity. Therefore, wages are the most direct factor representing productivity whether those are ex ante (incentive hypothesis) or ex post (productivity wage hypothesis).

<Table 6> shows the average hourly wages for workers, according to the categories of creative industries and creative occupations. The wage level for creative occupations is high overall, with creative skill occupations seen as having the highest wage level, followed by technical creative occupations and cultural creative occupations. However, since this difference in wages is not controlled for the various factors that affect wages—factors that include education, length of service, and experience—it is difficult to verify that this is purely the effect of creative occupations. In order to see how creative occupations affect wages, we must control for a variety of these explanatory factors before examining the wage gap.

The results of the examination of how creative labor affects wages, relying on an analysis of the wage equation, are summarized in <Table 7>. The wage premium here refers to the relative level of wages when the wage of workers in the standard group is assumed to be 1.

The results show that technical creative occupations and creative skill occupations command a wage premium, but cultural creative occupations have a negative wage premium, or wage penalty. More specifically, under the same conditions, workers in cultural creative occupations make lower wages than workers in non-creative occupations, though the penalty is not applied consistently across all industries. Workers in cultural industries (12~21 percentage) and related industries (20~23 percentage) receive high wages premium and those of who work in ICT industries also receive wage premium (admittedly small, 2~7 percentage). Other industries, on the other hand, concentrated by 45.9 percentage of cultural creative workers, experience large scale of wage penalty (-18 to -23 percentage) which represent wage penalty in overall cultural creative occupations.

If creative workers are to have the incentive to actually contribute creatively in their work, they must be given appropriate compensation (wages) for this.

There is an income premium for technical creative occupations, yet an income penalty for cultural creative occupations that are not in creative industries.

< Table 6 > Hourly Wages of Wage Earners by Categories of Creative Industries and Creative Occupations (2012)

(Unit: KRW 1,000)

	All		Creative industries	Other industries		
	Industries	Cultural industries	ICT Industries	Related industries	Goods industry	Service industry
Creative occupations	18.1	16.0	17.9	13.8	19.2	18.7
Cultural creative occupations	12.8	14.1	13.1	12.3	14.7	11.6
Technical creative occupations	17.5	17.1	17.9	12.9	17.7	17.7
Creative skill occupations	21.9	27.8	30.7	20.1	26.3	21.2
Non-creative Occupations	10.7	11.7	10.7	8.6	11.6	10.6
Total	11.8	14.5	13.0	9.0	12.4	11.7

Source: Statistics Korea, Regional Employment Survey, raw data for 2012.

<Table 7 > Wage Premium for Creative Labor

	Model 1		Mod	lel 2		Model 3				
	All Industries	Cultural Industries	ICT industries	Related industries	Other industries	Cultural industries	ICT industries	Related industries	Other industries	
Cultural creative occupations	0.888	1.121	1.070	1.200	0.773	1.212	1.017⁺	1.230	0.816	
Technical creative occupations	1.154	1.194	1.235	1.095	1.167	1.057	1.142	1.100	1.129	
Creative skill occupations	1.371	1.699	1.905	1.523	1.362	1.655	1.805	1.511	1.326	
Non-creative occupations	1.000	1.047	(0.993)	0.984	1.000	1.040	0.974	0.990	1.000	

Notes: 1) Parentheses indicate an estimate that is not statistically significant, while a plus sign indicates a 10% level of significance.

2) In model 1, the reference group is non-creative occupations; in models 2 and 3, it is non-creative occupations in other industries.

At the same time, there is a wage premium for technical creative occupations in most industries, though the premium varies by industry, with creative skill occupations (including most administrative and professional jobs) being given the highest wage premium.

<Table 8> examines the effect that creative labor has on wages according to gender. In the case of women, the wage premium for cultural creative occupations is the largest in related industries, decreases in size in cultural industries and ICT industries, and becomes a wage penalty in other industries. In the case of men, just as with women, the greatest wage premium is found in related industries and there is a wage penalty in other industries, but a difference can be seen in the numerical size of the premium and penalty. The only category in which the wage premium is (slightly) higher for men than for women is cultural industries; in the rest of the categories, the premium is lower for men. Interestingly, the wage penalty in other industries is much higher for men than for women. For women, cultural creative occupations are generally advantageous in terms of wages, but for men, with the exception of a few sectors, it can be seen that these jobs are much less attractive in terms of compensation.

In the case of technical creative occupations, men and women are seen to enjoy equal wage

Cultural creative occupations are generally advantageous to women with regards to wages, but such jobs are less attractive for men.

<Table 8 > Wage Premium for Creative Labor by Gender

		Male					Female				
	Total	Cultural	ICT	Related	Other	Total	Cultural	ICT	Related	Other	
Cultural creative labor	0.842	1.134	(1.062)	1.177	0.731	1.024	1.111	1.082	1.328	0.925	
Technical creative labor	1.145	1.234	1.230	1.094	1.155	1.300	1.227	1.430	(1.102)	1.338	
Creative skill labor	1.561	1.786	1.872	1.413	1.555	1.190	1.538	1.897	1.647	1.182	
Non-creative	1.000	1.094	(0.996)	0.953	1.000	1.000	(0.993)	1.031	1.028	1.000	

Notes: 1) Parentheses indicate an estimate that is not statistically significant.

premiums in most industries. In the case of creative skill occupations, men and women both continue to generally receive high income premiums, with the only exception being women in the category of other industries. This derives from the fact that, even within the same general category of creative skill occupations, the specific position of men and women in the workplace is very different; it can likely be attributed to occupational segregation, the phenomenon in which men are concentrated in creative skill occupations with comparatively high wage premiums (such as doctors), and women are concentrated in jobs with lower wage premiums (such as nurses).

#### **V** Conclusion

This paper presents an analysis of the employment situation and the system of compensation in the creative economy, defining creative occupations as jobs that demand creative skills and defining creative workers as workers with creative occupations.

There are 2.94 million creative workers in the Korean labor market, representing 12.2 percent of total employment. Of these, around 30 percent are working in creative industries, with the rest working in non-creative industries. This implies that creative workers play an important role not only in creative industries but also in other sectors of the economy.

In our analysis of creative intensity by economic sector, creative intensity appears to be continuing to grow both in cultural industries and ICT industries, indicating that these industries are increasingly dependent on creative workers. The demand for technical creative workers is increasing the fastest in cultural industries, while the demand for cultural creative workers is increasing the fastest in ICT industries. This can be seen as empirical evidence showing that convergence between cultural creativity and technical creativity is expanding in creative industries. Given the close relationship between students' majors at university and occupation types in the labor market, this suggests that convergence education should be used in the school curriculum to increase mutual understanding between the fields of cultural and technical creativity.

In contrast, creativity intensity is very low and stagnant in related industries. Among the stages of the value chain (creation-)production-)distribution-)consumption), related industries

With attention focused on the convergence between cultural creativity and technical creativity, convergence education must be used in school curriculums to foster mutual understanding.

<sup>2)</sup> For the overall effect, the reference group has been designed to test for non-creative occupations; for the effect by industry, it tests for non-creative occupations in other industries.

As long as the demand for creativity remains low in the areas of distribution and consumption, it is unlikely that the virtuous cycle of the creative economy will continue to develop in a way that allows added value to expand through the interaction between production and consumption.

The undervaluation of cultural creativity could become an obstacle to training excellent workers in the cultural industry.

The key to creating a creative ecosystem is respecting spontaneity, discretion, and diversity and providing appropriate incentives for the same.

generally refer to industries connected with the production (especially mass production), distribution, and consumption of creative goods. Therefore, a low level of creative intensity in related industries implies that there is a low demand for creativity in stages other than creation. This conclusion leads to concerns that, under these conditions, it is unlikely that the virtuous cycle of the creative economy will come into being, the cycle in which added value continues to expand through the interaction between production and consumption. It may be necessary to fortify the connections between creative industries (in the narrow sense of the word) and related industries, and in particular to use the influx of technical creativity to create the added value that could help these related industries reach the next level.

The system of compensation for creative labor is critical in the sense that it can actually motivate creative workers to increase productivity. The conclusion drawn from the effect that creative occupations have on wages is that there is a wage premium for technical creative occupations but a wage penalty for cultural creative occupations, with the exception of a few industries. This implies that cultural creativity is undervalued in the overall Korean economy because of relative weakness of the value creation structure. Such conditions could function as an obstacle to the cultivation of an outstanding workforce in the culture industry.

The creative economy regards creativity, an ability that is unique to humans, as the main element of production and a key source of value. Creativity and creative labor are able to blossom when properly nurtured, and the key to creating such an ecosystem is respecting spontaneity, discretion, and diversity and providing appropriate incentives. In order to bring about a creative economy in the not too distant future, it is important to understand the power of cultural content and stories and encourage their use in the creation of new value.

#### <Appendix Table 1> Types of Creative Industries and the Associated Business Code (KSIC)

Cultural industries (14)	ICT industries (13)	Related industries (20)			
<ul> <li>332 Manufacture of musical instruments</li> <li>581 Publishing of books, magazines, and other publications</li> <li>582 Software development and supply</li> <li>591 Motion picture, video, broadcasting programs production and distribution</li> <li>592 Audio publishing and original master recordings</li> <li>601 Radio broadcasting</li> <li>602 Television broadcasting</li> <li>702 Research and experimental development on humanities and social sciences</li> <li>713 Advertising</li> <li>721 Architectural, engineering, and related technical services</li> <li>732 Specialized design services</li> <li>733 Photographic activities</li> <li>901 Creative and arts related services</li> <li>902 Library, historical sites and buildings, and similar recreation related services</li> </ul>	171 Manufacture of pulp, paper, and paperboard 181 Printing and service activities related to printing 182 Reproduction of recorded media 263 Manufacture of computers and peripheral equipment 264 Manufacture of telecommunication and broadcasting apparatuses 265 Manufacture of electronic video and audio equipment 266 Magmatic and manufacture of optical medium 273 Manufacture of spectacles, photographic equipment, and other optical instruments 473 Retail sale of information and communications equipment 620 Computer programming, system integration, and management services 631 Data processing, hosting, portals, and other internet information media service activities 639 Other information service activities 694 Leasing of intangible property	141 Manufacture of sewn wearing apparel, except fur apparel 142 Dressing and dyeing of fur, manufacture of articles of fur 143 Manufacture of knitted and crocheted apparel 144 Manufacture of accessories for clothing 151 Manufacture of luggage, footwear, and similar products 152 Manufacture footwear and parts of footwear 231 Manufacture of glass and glass products 232 Manufacture of ceramic ware 230 Manufacture of furniture 331 Manufacture of furniture 331 Manufacture of sports and athletic goods 334 Manufacture of sports and athletic goods 334 Manufacture of odlls, toys, and games 474 Retail sale of textiles, clothing, footwear, and leather goods 476 Retail sale of cultural, entertainment, and recreation goods 478 Retail sale in other specialized stores 479 Retail sale not in stores 551 Accommodations 752 Activities of travel agencies and tour operators and tourist assistance activities 911 Sports services 912 Amusement and theme park operation			

#### References

- Department for Culture Media and Sports, *Creative Skillset*, *Classifying and Measuring the Creative Industries*, 2013.
- Department for Culture, Media and Sports, Creative Industries Economic Estimates, 2011.
- Florida, Richard, The Rise of the Creative Class: And How It's Transforming Work, Leisure, Community and Everyday Life, New York: Basic Books, 2002.
- Hwang, Soo Kyeong, *Creative Economy and Job Creation: Focusing on Creative Employment*, Policy Research Series, 2014-01, Korea Development Institute, May 2014.
- NESTA, A Dynamic Mapping of The UK's Creative Industries, January 2013.
- Statistics Korea, Regional Employment Survey, raw data for various years.
- Toner, P., Workforce Skills and Innovation, OECD Science, Technology and Industry Working Papers, OECD, 2011.
- UNCTAD, The Creative Economy Report 2010, UN, 2010.
- UNESCO, The 2009 UNESCO Framework for Cultural Statistics, 2009.
- WIPO, Guide on Surveying the Economic Contribution of the Copyright-based Industries, 2003.