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The Impacts Analysis of Creative-Products Export on the Economy

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Abstract

The increase of export value of creative industry in the middle of the declining export value of Indonesia's leading commodities during the period of 2011 to 2015 indicates that the creative industry potentially encourages the economic growth in Indonesia. This study aims to observe the linkages of creative industries, both forward and backward linkages, with other sectors in the economy. This study also examines the impacts of the increasing export on the fashion and craft sectors, as the two largest contributors to the export of creative industries, towards the Indonesian economy. Applying the Input-Output approach, the influence of the export of fashion and craft sectors towards the Indonesian economy is seen from the multiplier effects on the increasing value added, community income and labor absorption. The results show that fashion exports increased the national value added by 0.06%; community income 0.06% and employment 0.11%. Similarly, craft exports increased the national value added by 0.05%; income by 0.05% and employment by 0.11%. The largest increase is in the labor absorption; this is because the fashion and craft sectors are labor intensive sectors.

Key words : Export, Fashion Sector, Craft Sector, Creative Economy, Input-Output Model

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INTRODUCTION

Export is an international trading activity that has an important role in encouraging the economy. The international trade theory proposed by Smith outlines that international trade activities, especially exports, potentially encourage economic growth through the domestic production-market expansion (Afonso, 2001). Several previous empirical studies showed that there is a positive relationship between export and economic growth as in the case study of developing countries in Asia (Ekanyake, 1999), Scandinavian countries (Hatemi and Irandoust, 2000), Iran (Roshan, 2007) and Taiwan (Chen, 2007).

In the case study of Indonesia shows that Indonesia's exports and economic growth have closely related relationship. Figure 1 shows that in the period of 2011 to 2015, the total value of Indonesian exports experienced a negative trend with an average decreasing value of 7.18% per year. The decline in prices of some Indonesia's mainstay commodities abroad such as palm oil and minerals is one of the causes of the decline in the Indonesia's export value.
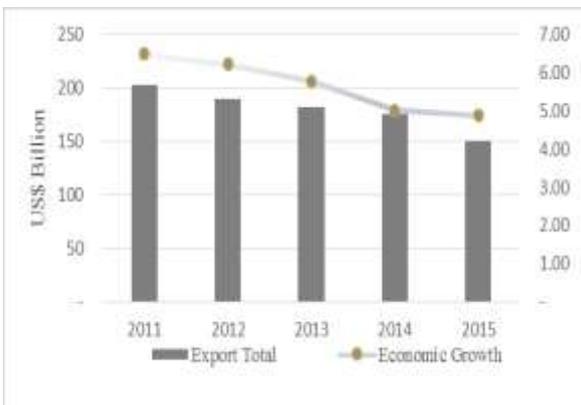

Figure 1. Indonesia Export Value (US $ Billion) and Indonesia Economic Growth (%) Source: Central Bureau of Statistics, 2017

In line with the decline of the total value of Indonesian exports, Indonesia's economic growth also experienced a negative trend in the period of 2011 to 2015. Uniquely, the trend in economic growth shows the same movement with the trend occurring in total Indonesian exports. This proves that the decline in total exports is one of the factors affecting the slowing of Indonesia's economic growth.

While the export value of leading commodities was declining which affected to the slowing economic growth, the export value of products in creative industries showed a positive trend.

The Creative Economy Agency (2016a) noted that the export value of Indonesian creative products in 2015 reached more than US$ 19 billion, significantly increased comparing to the export value of creative products in 2010 of US$ 13 billion (see Figure 2).
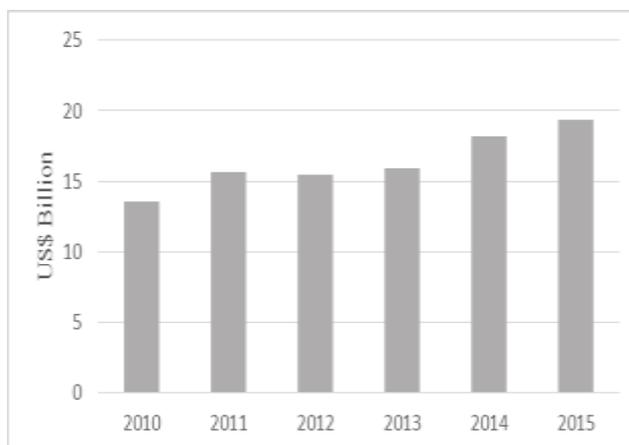

Figure 2. The Export Value of Indonesian Creative Products in 2010-2015 (US $ Billion) Source: Creative Economy Agency, 2016

On average, the export value of Indonesian creative products has increased by 7.67% per annum during 2010 to 2015. Several factors considered capable of influencing the increase of

creative products export are integration of technology, telecommunications and multimedia, increasing demand on art products and the rising world-real incomes (Ministry of Tourism and Creative Economy (Kemenparekraf), 2014). In this case, the government of Indonesia needs to increase the export, as one of the economic activity, in order to grow the total output of creative industry (Zubdi, 2012).

The increase in Indonesia's creative product exports amidst the decline in some of Indonesia's leading commodities exports indicates that creative industry exports potentially boost Indonesia's economic growth. Creative industries significantly boost the economic growth and job creations (Ghazi and Goede, 2017).

The research focuses on the value of creative product exports from two sub-sectors of the creative industry – fashion and craft sectors. Both sectors are chosen because almost 90% of the total export value of Indonesian creative products is the export of fashion and craft commodity (BEKRAF, 2016a). Therefore, the export value from both sectors is considered able to represent the value of creative products export as a whole.

Applying the Input-Output (I-O) model analysis, this study explains the economic impacts of the increase in the creative industry's final demand, especially exports in fashion and craft sectors towards the economy through the increase of value-added, household income and labor based on linkage analysis, multiplier analysis, and impact analysis. Previous studies often applied the Input-output approach to analyze the impacts of the increasing final demand

towards value added, income and economic growth (Xu et al., 2011; Loizou et al., 2015). The research is expected to be a reference and information for studies related to the impacts of creative industry's final demand that will be done in the future.

Adam Smith's classical economic theory around the eighteenth century explains that international trade especially exports has a positive relationship with economic growth. Afonso's (2001) explained that the Smith's economic theory contains at least two major discussions.

First, the existence of international trade is considered to meet the needs that can not be produced by the domestic market. Second, international trade potentially encourages the expansion of the domestic production market so as to enable the achievement of economies of scale, improved productivity and better division of labor.

The relations between international trade and the economy are also explained in the comparative advantage theory by David Ricardo. The theory states that a country will benefit from international trade if it is able to produce goods and services with the lowest opportunity cost and sell them to a country that lacks of the production (Hascaryotomo, 2011; Iqbal, Hameed, and Devi, 2012).

The benefits will then encourage the emergence of specialization in certain production outputs that potentially increase productivity and better resources allocation in production activities. This more efficient resources allocation and the increased productivity make it possible for larger productions that later on potentially grow the economy.

RESEARCH METHODS

This study applies Input-Output (I-O) model; that is a general equilibrium model that able to describe the output distribution of a(n) sector/industry to the whole economy (Miller and Blair, 2009).

In general, the I-O model classifies the activities of a sector into two types of transactions: production sales transactions and purchase transactions. Table 1 shows a simple overview of Table I-O used in this study.

Each column in the table describes purchase transactions in which each number represents a purchase of a production input made by a particular sector, consisting of domestic input purchasing from other sectors in the economy, input purchasing from abroad (import) as well as the value of remuneration of the production factors used by the sector.

Meanwhile, each row in Table I-O illustrates sales transactions in which each number represents the flow of production sales of a certain sector in the forms of both between-demand and final-demand (Hartono, 2003).

According to Table 1, the overall sales transactions and purchase transactions of a particular sector can be written into the following equation:

Sales Transactions of Sector-i =

$$\sum_{j=1}^{n} z_{ij} + Y_i = X_i \quad \forall i = 1,...,n \dots\dots\dots\dots(1)$$

Purchase Transactions of Sector-j =

$$\sum_{i=1}^{n} z_{ij} + v_j + m_j = X_j \quad \forall j = 1,...,n \dots\dots\dots(2)$$

Where zij represents the flow of goods or services transactions from sector-i to sector j, Yi is the final demand value of sector-i, Xi

represents the total output produced by sector-i, vj is the value-added or the fringe-benefits of production factor in the sector -j, mj is the import by sector j dan Xj is the total input used by sector j.

Assuming that all output values are generated using fixed proportional inputs, the movement of goods between sectors or industries can be transformed into the following input coefficients:

$$\cdot \; a_{ij} = \frac{z_{ij}}{X_j} \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots(3)$$

$$.\; z = a\, Xj \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots(4)$$

By inserting the equation (4) into equation (1), the following equation is obtained:

$$\sum_{j=1}^{n} a_{ij} X_j + Y_i = X_i \dots\dots\dots\dots\dots\dots\dots(5)$$

Moving variable Xi with variable Yi, it will get a system of equations that can be written with:

$$(I-A)X=Y \dots\dots\dots\dots\dots\dots\dots\dots\dots(6)$$

Having done the mathematical manipulations, then equation (6) can be converted to:

$$X = \llbracket (I-A) \rrbracket\; ^{\wedge}(-1)\; Y \dots\dots\dots\dots\dots\dots(7)$$

Notation (I - A)-1 is Leontief's inverse matrix which explains how production increase of a sector will affect the economies of other sectors. This Leontief's inverse matrix is often referred to as the economy multiplier used to calculate the impacts of a change in a sector's final-demand on the sector's economy and other sectors in the economy.

The Leontief inverse matrix can then be used to perform some analysis, such as inter-sectoral linkage analysis, multiplier analysis as

well as analysis of the impacts of final-demand increase on the economy.

According to Table 1, the overall sales transactions and purchase transactions of a particular sector can be written into the following equation:

Sales Transactions of Sector-i =

$$BLF_j = \sum_{i=1}^{n} \alpha_{ij} \quad \text{...(8)}$$

Purchase Transactions of Sector-j = BLI_j =

$$\frac{n\sum_{i=1}^{n} \alpha_{ij}}{\sum_{i=1}^{n}\sum_{j=1}^{n} \alpha_{ij}} \quad \text{...(9)}$$

Forward-linkage figures calculate the magnitude of the economic impacts caused by each Rp 1.- increase of the final demand of a sector (eg, sector-j) ceteris paribus, towards input impulse for the downstream sector. The downstream sector is a sector that uses production from the j-sector as one of its inputs.

The forward- linkage figure is the sum of each column element on the inverse matrix (I-Ātranspose). The matrix Ā is the output coefficient matrix showing the output quantity of the sector-i used as input for other sectors of the overall output. If the FLFj is the forward-linked figure of the j-sector, and β_{ij} is the element of the inverse matrix (I-Ātranspose), then the equation for calculating the forward-linkage figures is as follows:

$$FLF_j = \sum_{(i=1)}^{n} \beta_{ij} \quad \text{.......................................(10)}$$

To measure the size of a sector's ability to influence the growth of the output user sector, the value of forward-linkage index is used. The equation used to calculate the forward-linkage index is:

$$FLI_j = (n\sum_{(i=1)}^{n} \beta_{ij})/(\sum_{(i=1)}^{n}\sum_{(j=1)}^{n} \beta_{ij}) \quad \text{...(11)}$$

Where the FLIj is the forward linkage index for the j-sector and βij is the reverse matrix element (I-Ātranspose).

The value-added multiplier (VAM) measures the magnitude of the economic impacts caused by each final-demand change of Rp 1.- towards the value-added or the finge-benefits of production factor, ceteris paribus. The formula for calculating the value-added multiplier is

$$VAM_j = \sum_{(i=1)}^{n} v_i/X_i \; \alpha_{ij} \quad \text{.....................(12)}$$

Where VAMj is a value-added multiplier for the-j sector, vi is the value-added of sector-i, Xi is the sector-i input and αij is the Leontief inverse element.

The household income multiplier (HHIM) measures the magnitude of the economic impacts caused by each change in the final-demand of Rp 1.- towards the income of the household, ceteris paribus. The formula for calculating HHIM numbers is:

$$HHIM_j = \sum_{(i=1)}^{n} w_i/X_i \; \alpha_{ij} \quad \text{.....................(13)}$$

Where HHIMj is the household income multiplier for the sector-j, wi is the wage for sector-i, Xi is the input of sector-i and αij is the Leontief inverse element.

The labor multiplier (LM) measures the magnitude of the economic impacts caused by each final-demand change of Rp 1.- towards the number of labor, ceteris paribus. The formula for calculating the LM numbers is

$$LM_j = \sum_{(i=1)}^{n} e_i/X_i \; \alpha_{ij} \quad \text{...........................(14)}$$

where LMj is the labor multiplier for the j-sector, ei represents the amount of labor for the i-sector, Xi is the total input of sector-i and αij is the Leontief inverse element.

Export Impacts on Values-Added, the effect of export increase on value-added changes is calculated by multiplying the value-added coefficient multiplier matrix with the export-change vector. The value-added coefficient multiplier matrix is the multiplication product of the value-added coefficient diagonal matrix with the Leontief inverse matrix. Thus, the formula for calculating the impacts of exports on value-added can be written as:

$$\Delta VA= \hat{y}\ (I-A)^{-1} \Delta Y \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots(15)$$

Where ΔVA is the value-added changes in the economy, $\hat{y}$ is the value-added coefficient diagonal matrix, $(I-A)^{-1}$ is the Leontief inverse matrix and ΔY represents the final-demand changes which in this case is the export change.

Export Impacts on Household Income, calculating the economic impacts of export increase on changes in household income is similar to the value-added indicator; by multiplying the income coefficient multiplier matrix with the final-demand change vector. The income coefficient multiplier matrix is the multiplication product of the income coefficient diagonal matrix ($\hat{w}$) with the Leontief inverse matrix (($I-A)^{-1}$). The formula for calculating the impacts of export increase On changes in household incomes can be written as:

$$\Delta HHI= \hat{w}\ (I-A)^{-1} \Delta Y \dots\dots\dots\dots\dots\dots\dots\dots\dots(16)$$

Where ΔHHI is the impact on the household income, $\hat{w}$ is the income coefficient diagonal matrix, $(I-A)^{-1}$ is

Leontief's inverse matrix, and ΔY represents a change in exports.

Measuring the impacts of export increase on changes in the amount of labor absorbed in the economy can be done by multiplying the labor coefficient multiplier matrix with export-change vectors.

The labor coefficient multiplier matrix is the multiplication product of the labor coefficient diagonal matrix with the Leontief inverse matrix. The equation used to measure the changes in the amount of labor is:

$$\Delta L= \hat{e}\ (I-A)^{-1} \Delta Y \dots\dots\dots\dots\dots\dots\dots\dots\dots(17)$$

ΔL represents a change in the amount of labor, $\hat{e}$ is the labor coefficient diagonal matrix, $(I-A)^{-1}$ is the Leontief reverse matrix and ΔY represents a final-demand change in the form of an export change.

This study uses secondary data that is I-O Table data 23 sectors which is the result of data processing of I-O Indonesia 185 sectors in 2010 published by Indonesian Central Bureau of Statistics in 2015.

The I-O data 23 sectors include I-O data 17 sectors that have been aggregated according to concordance classification of Indonesia I-O Table in 2010 (BPS, 2015) and 6 (six) sectors belonging to the sub-sector of creative industry.

The creative industry I-O data used in this research are the data applied in prior research done by Prihawantoro and Anafi (2016) related to the role of creative economy in Indonesia economic structure. The sector details included in Table I-O 23 sectors of 2010 are summarized in Table 2.

Table 2. Sector Details in Input-Output Table of 23 Sectors, Year 2010

Code	Sector	Code	Sector
1	Agriculture, Forestry and Fisheries	13	Company Services
2		14	Government Administration, Defense and Mandatory Social Security
	Mining and Excavation		
3	Processing Industry (manufacturing)	15	Educational Services
4	Procurement of electricity, Gas	16	Health Services and Social Activities
5	Water Supply, Waste Management, Waste and Recycling	17	Other Services
6	Construction	18	Culinary
7	Large and Retail Trade; Car and Motorcycle Repair	19	Fashion
8	Transportation and Warehousing	20	Craft
9	Provision of Accommodation	21	Publishing
10	Information and Communication	22	Film, Radio, TV, Performance Art, Music, Fine Art, Animation, Video
11	Financial Services	23	Architecture, Product Design, Interior Design, Visual Communication Design, Photography, Application and Game Developer, Advertising
12	Real Estate		

Sources: Processed Data by Prihawantoro and Anafi (2016)

RESULTS AND DISCUSSION

This section will explain the analysis and results; begins with an overview of the creative industry, especially the fashion and craft sectors. Next, the discussion is followed by the linkage analysis and multiplier analysis. The discussion is ended with the analysis of the economic impacts due to changes in exports.

The fashion and craft sectors are the two sectors belonging to the creative industry subsector. The definition of creative industry was formally first coined in 1998 by The Creative Industries Task Force of the Department for Culture, Media and Sport (DCMS) in the UK that defines the creative industry as an activity derived from individual creativity, skill and talent in which all of them have the potential to increase wealth and job creation through the use of intellectual property (DCMS, 2013). In general, creative industries can be interpreted as activities to process, manage and create goods and services by using creativity, innovation and

intellectual as their main resources to create value-added, employment and quality of life (Howkins, 2001; Kemenparekraf, 2014).

Furthermore, BEKRAF (2016b and 2016c) explains that there are 16 sectors belonging to the sub-sector of Indonesian creative industry. The Subsectors are: 1) application and game developers, (2) architecture, (3) interior design, (4) visual communication design, (5) product design, (6) fashion (mode), (7) film, animation and video photography, (9) craft, (10) culinary, (11) music, (12) publications, (13) advertising, (14) performing arts, (15) art, and (16) television and radio. From all sub-sectors of the creative industry, this research will focus on creative product exports produced by two subsectors: the fashion sector and the craft sector.

The fashion sector is a sector that produces ready-to-wear goods and textiles that contain symbolic, aesthetic and cultural elements to reflect lifestyles and represent distinctive characteristics of a group that is different from the others (Kisfaludy, 2008; Kemenparekraf, 2014; Pan et al., 2015).

Based on its kind, the products produced by the fashion sector include textiles, perfumes, cosmetics, clothing, accessories and footwear that can be processed entirely by industry or by traditional or handmade techniques (Kemenparekraf, 2014).

Meanwhile, the craft sector is a sector that produces a product of applied art in the form of artwork, functional products, decorations and decorative products as a combination of art and design aspects that are both traditional and contemporary.

Based on the type of products produced, the craft sector produces art craft products and design craft products. These types of products can be made in two dimensions such as carving and three-dimensional work such as jewelry, kitchenware, tableware and others (Kemenparekraf, 2014).

Linkage analysis explains the relationship between a particular sector with other sectors in the economy. There are generally two types of linkages, ie backward-linkages that illustrate the relationship between a sector and its input supply sector (upstream sector), and forward-linkages that illustrate the relationship of a sector with its output user sector (downstream sector).

Table 3. shows that the fashion and craft sectors have a fairly high backward-linkage of 1.74891 and 1.92249, respectively. The figures indicate that the increase in the final-demand of Rp 1.- which occurs in both sectors, ceteris paribus, will boost upstream production output from the fashion sector by Rp 1.74891 and the upstream production output from the craft sector by Rp 1, 92249.

In relation to the backward-linkage index, Miller and Blair (2009) explained that sectors that have a backward-linkage index greater than 1 (one) have a relatively bigger capability compared to the average of other sectors in affecting the growth of upstream output.

Table 3. also shows that the fashion and craft sectors have a backward-linkage index greater than 1 (one). The result explains that the ability of both to influence the growth supply sector is above average or relatively larger compared to other sectors.

The high linkages between a sector and their upstream sector illustrate the importance of the intermediate-input role for the sector's production process.

The fashion and craft sectors have relatively lower forward-lingkage figures compared to other creative industries sub-

sectors. The craft sector has a forward-linkage figure of 1.52081, while the fashion sector has the lowest forward-lingkage figure among all creative industry sub-sectors, of 1.12904.

Table 3. Figures and Indexes of Backward and Forward Linkages of the Creative Industry Subsectors

Code	Creative Industry Subsectors	BLF	FLF	BLI	FLI
18	Culinary	1.94928	1.29044	1.17239	0.74874
19	Fashion	1.74891	1.12904	1.05188	0.65509
20	Craft	1.92249	1.52081	1.15628	0.88240
21	Publishing	1.94895	2.14575	1.17219	1.24500
22	Film, Radio, TV, Performance Art, Music, Fine Art, Animation, Video	1.51249	2.17207	0.90968	1.26027
23	Architecture, Product Design, Interior Design, Visual Communication Design, Photography, Application and Game Developer, Advertising	1.61745	2.00260	0.97281	1.16194

Source: Data processed

Note: BLF: Backward Linkage Figures; BLI: Backward Linkage Indexes; FLF: Forward Linkage Figures; FLI: Forward Linkage Indexes

This figure shows that each final-demand from both sectors increases by Rp 1.- ceteris paribus, it will push input for the downstream sector of the fashion sector of Rp 1.12904 and boost input for downstream sector from the craft sector of Rp 1.52081.

Table 3 also shows that the fashion and craft sectors have a linkage index below 1 (one). It shows that the capability of both sectors in influencing the downstream input impulse is relatively lower compared to the average of all economic sectors.

The value-added multiplier figures indicate the magnitude of the economic impacts resulting from an increase in the final-demand of Rp 1.- in a sector, ceteris paribus, to the change in value-added. Table 4. shows that the fashion sector has a total value-added multiplier of 0.8161.

Table 4. Value-Added Multipliers, Household Income Multiplier, and Labor Multiplier of Creative Industry Sub-sectors

Code	Creative Industry Subsector	Multipliers		
		Value Added	Income	Labor
18	Culinary	0.9083	0.2806	0.0213
19	Fashion	0.8161	0.2669	0.0258
20	Craft	0.8264	0.2478	0.0283
21	Publishing	0.8789	0.2893	0.0164
22	Film, Radio, TV, Performance Art, Music, Fine Art, Animation, Video	0.8837	0.2787	0.0077
23	Architecture, Product Design, Interior Design, Visual Communication Design, Photography, Application and Game Developers, Advertising	0.8832	0.2229	0.0059
	Average Number of Multipliers (23 Sectors)	0.8947	0.2906	0.0180

Source: Data processed

That means when there is an increase in the final-demand of Rp 1.- in the fashion sector, ceteris paribus, it will affect the value-added of the entire economy of Rp 0.8161. Meanwhile, the craft sector has a value-added multiplier of 0.8264, so if there is an increase in the final-demand of Rp 1 in the craft sector, ceteris paribus, then the value-added to the economy is of Rp 0.8264.

Table 5. Five Sectors of the Largest Value-Added Impact-Recipients in Fashion and Craft Export (in million rupiah)

Fashion Export Impact			Craft Export Impact		
Code	Sector	Value-Added Changes	Code	Sector	Value-Added Changes
19	Fashion	2,113,862.20	20	Craft	1,590,694.574
3	Processing Industry (manufacturing)	467,763.78	3	Processing Industry	570,988.265
7	Large and Retail Trade; Car and Motorcycle Repair	229,182.67	2	Mining and Excavation	325,582.543
1	Agriculture, Forestry and Fisheries	193,133.77	1	Agriculture, Forestry and Fisheries	248,748.392
2	Mining and Excavation	132,109.61	7	Large and Retail Trade; Car and Motorcycle Repair	243,318.324
	Total Economy (23 Sectors)	3,653,556.29		Total Economy (23 Sectors)	3,477,656.674

Source: Data processed

Table 4. shows that the fashion sector has household income multiplier of 0.2669, meaning that if there is a final-demand increase in the fashion sector by Rp 1.- ceteris paribus, it

will increase income in all sectors of the economy by Rp 0.2669. In the meantime, the craft sector shows a household income multiplier of 0.2478, so that an increase in the final-demand in the craft sector of Rp 1.- ceteris paribus, will potentially increase the total household income by Rp 0.2478. Furthermore, the fashion sector has a labor multiplier of 0.0258 and the craft sector of 0.0283.

This shows that every increase in the final-demand for fashion sector of Rp 1 billion, ceteris paribus, then the amount of labor that will be absorbed in the overall economy of the fashion sector is about 26 people and from the craft sector of 28 people.

Based on the data of product exports that have been described previously, the export value of the fashion sector has an average growth of 5.17% per year.

While the export of the craft sector has an average growth of 12.05% per year. Having

multiplied the product export values of both sectors in Table I-O data of 23 sectors in 2010, the shock value for the fashion sector is Rp 4.48 trillion and for the craft sector of Rp 4.20 trillion rupiah. Based on these two shock values, a simulation was conducted to measure the impact of an increase in exports.

The increasing exports of the fashion and craft sectors affect to the greatest increase in value-added on both sectors. Table 5. shows that the fashion sector gained a value-added of around Rp 2.1 trillion per year from the fashion sector exports while the craft sector gained a value-added of Rp 1.5 trillion from the export of the craft sector. In addition, the processing industry becomes another sector that has the greatest impact due to increased exports from both the fashion and craft sectors. Similar to the previous two indicators, the impact of the increasing export in fashion and craft sectors on the largest labor indicator is experienced by the exporting sectors themselves.

Table 6. Five Sectors of the Greatest Household Income Impact-Recipients in Fashion and Craft Exports (in million rupiah)

Fashion Export Impact			Craft Export Impact		
Code	Sector	Income Changes	Code	Sector	Income Changes
19	Fashion	752,832.93	20	Craft	523,274.28
3	Processing Industry (manufacturing)	139,970.23	3	Processing Industry	170,858.37
7	Large and Retail Trade; Car and Motorcycle Repair	66,169.97	7	Large and Retail Trade; Car and Motorcycle Repair	70,251.24
1	Agriculture, Forestry and Fisheries	48,655.25	1	Agriculture, Forestry and Fisheries	62,665.97
20	Craft	43,142.26	2	Mining and Excavation	53,660.78
	Total Economy (23 Sectors)	1,194,776.46		Total Economy (23 Sectors)	1,042,736.92

Source: Data processed

Furthermore, the agriculture, forestry and fishery sectors are sectors other than fashion and craft that absorb relatively more labor than other sectors in the economy.

Table 7 shows that the agriculture, forestry and fishery sectors absorb about 8 thousand workers due to the fashion export and about 10 thousand workers due to the craft export.

Table 7. Five Sectors of the Greatest Labor Impact-Recipients in Fashion and Craft Exports

Fashion Export Impact			Craft Export Impact		
Code	Sector	Labor Changes	Code	Sector	Labor Changes
19	Fashion	88,349	20	Craft	94,779
1	Agriculture, Forestry and Fisheries	8,291	1	Agriculture, Forestry and Fisheries	10,678
20	Craft	7,814	3	Processing Industry	3,643
7	Large and Retail Trade; Car and Motorcycle Repair	2,993	7	Large and Retail Trade; Car and Motorcycle Repair	3,177
3	Processing Industry	2,984	8	Transportation and Warehouse	2,218
	Total Economy (23 Sectors)	115,324		Total Economy (23 Sectors)	119,128

Source: Data processed

Based on the above exposures, the export increase in fashion sector by Rp 4.48 trillion per year, ceteris paribus, during the five years from 2010 to 2015 could increase the value-added, household income and the number of workers absorbed in the economy as a whole or sectoral

Table 8 shows that greatest change percentage in the presence of fashion sector.

Exports occurred in labor indicators of 0.106%. Meanwhile, for value-added and income indicators both have the same percentage of change that is about 0.055%.

Table 8. Impacts of Fashion Sector Export Increase on Changes in Value-Added, Income and Labor

Impacts	Before Shock	Additional Due to Shock	After Shock	% Changes
Value-Added (million rupiah)	6,683,679,717	3,653,556.29	6,687,333,273.29	0.055%
Income (million rupiah)	2,170,076,206	1,194,776.46	2,171,270,982.46	0.055%
Labor (person)	109,024,130	115,324	109,139,454.37	0.106%

Source: Data processed

The increase of craft exports also potentially boost economic growth Table 5.16 shows that the value-added indicator would increase by 0.052%, income increase by 0.048% and labor increase by 0.109% per annum after injection in the form of export growth of the craft sector in the period 2010to 2015.

In general, the export growth of creative products in the fashion and craft sectors during period of 2010 to 2015 potentially increased the value-added, household income and the number of workers in the Indonesian economy. Daubaraite and Startiene (2015) mentioned that contributions to the GDP, fighting unemployment, and contribution to foreign trade are tools that could be used to measure the impacts of creative industries on the national economy.

Table 8 and Table 9 show that of the three economic indicators analyzed, labor is an economic growth indicator that has the largest change percentage due to an export increase in creative products, both in fashion sector of the craft sector. What makes the labor absorption big is because the fashion and craft sectors are the two sub-sectors of creative industries that use a lot of human resources in the production process (labor intensive).

The fashion and craft sectors are called as labor intensive sector because they require more human resources in producing a creative product. In the fashion sector, the production process not only relies on creative human resources, but also requires a lot of manpowerfor various technical productions.

Kemenparekraf (2014) mentioned that there are several patterns of production done in the fashion sector, including original design manufacturing (ODM), original equipment manufacturing (OEM), original brand manufacturing (OBM) and cutting, making and trimming (CTM).

While in the craft sector, the big number of workers absorbed is due to the large number of companies in the market. Kemenparekraf (2014) explained that in the craft market structure, most companies are the only producers in every kind of certain handicraft products. This happens because the craft goods produced must be unique and have differences with other similar craft items in order to make high competitiveness.

Table 9. Impacts of Craft Sector Export Increase on Changes in Value-Added, Income and Labor

Impacts	Before Shock	Additional Due to Shock	After Shock	% Changes
Value-Added (million rupiah)	6,683,679,717	3,477,656.674	6,687,157,373.67	0.052%
Income (million rupiah)	2,170,076,206	1,042,736.92	2,171,118,942.92	0.048%
Labor (person)	109,024,130	119,128	109,143,258.22	0.109%

Source: Data processed

To maintain the uniqueness of a handicraft item, then creative human resources will be much needed compared to high-tech machines. Therefore, there will be many employees absorbed in the craft sector.

The labor-intensif creative industry sub-sectors tend to absorb more labor when the final-demand of the sector increases. This is in line with the Xikang (2012) study which explained that the exports of textile and garment products which in the production process relies on more human resources, proves to absorb greater domestic employment compared to exports in high technology products. The result is also supported by the study of Creative Industries Research and Application Center (CIRAC) (2005) which explained that the creative industry is a labor intensive sector that is able to absorb labor significantly in the economy.

The results of data processing shows that the processing industry (manufacturing sector) is another sector affected most by the increasing value-added and income due to the growth of exports in fashion and craft sector. This is due to the high backward-linkage between the fashion and craft sectors with the manufacturing sector. In other words, when the export value of the fashion and craft sectors increases the output production from both sectors will also increase. It will increase inputs to be used so that it will affect the manufacturing sector as the biggest provider of between-inputs for the fashion and craft sectors. The relationship is in line with Lam's (2013) study which stated that the profit of a sector's exports will have a large profit-spillover effect on other sectors with high linkages.

For labor indicators, other sectors that are able to absorb the largest labor due to the

increasing export of fashion and craft sectors are agriculture, forestry and fishery sectors. This happens because the agriculture, forestry and fisheries sectors are sectors that have a large contribution in distributing raw materials for the fashion and craft productions. Plantation sector produces cotton as a base in textile processing which is then designed into a creative product in the form of clothing. As for the craft sector, the plantation sector provides timber which is one of the main raw materials in making creative craft products.

In general, raw materials used in the fashion and craft sectors come from other sectors that are mostly not the other sub-sectors of creative industries. This is in line with Slehoferova's (2014) study of the creative industries in the Czech Republic explaining that creative sectors often have many suppliers from other sectors that are not related to culture or creativity at all. The relationship shows that an increase in any demand on the creative industry sector will affect other uncreative sectors. Similar results were also presented in Experian's (2007) study on a case study of the United Kingdom explaining that the creative industry is able to contribute significantly to raw material suppliers that have encouraged creative production activities.

CONCLUSION

Applying Table I-O 23 sectors in 2010, this research tries to explain the effects of the fashion and craft sectors on the economy using 3 (three) analyses: linkage analysis, multiplier analysis and impact analysis. Related to the linkage analysis, the fashion and craft sectors are sectors that rely heavily on the sectors of production inputs suppliers. Therefore, the final-demand increase in the fashion and craft sectors potentially grows the input supply sectors. While about the

multiplier analysis, the craft sector has the highest labor multiplier among other creative industry sub-sectors. In other words, the craft sector is able to absorb more labor when the final-demand eventually increases.

The export increase of creative products from both the fashion and craft sectors potentially drive the Indonesian economy through the increase of value-added, income and labor absorption. The highest percentage increase occurred in labor indicator, which means that the export increase of both sectors potentially absorbs more workers considering that both sectors are the creative industry sub-sectors that are labor intensive.

By sector, the greatest impact of an export increase in the fashion and craft sectors is felt by the exporting sectors themselves. While the other sectors that are greatly affected, are sectors that have high relation with the exporting sectors. Referring to the linkage analysis, the fashion and craft sectors are sectors that rely heavily on the input supply sector. Therefore, the greatest impact of export increase will be received by the largest input suppliers or raw materials providers to both sectors.

This study focuses on the impact of creative product exports from the fashion and craft sectors as both sectors have a high percentage of export value. However, these two sectors have a high linkage only to the input supply sectors. Therefore, further research is expected to examine how the final-demand affects the publishing sector that has both high forward-linkage and backward-linkage and is the only key sector derived from the creative industry sub-sectors.

In addition, other creative industry sub-sectors such as film, animation and video, music, and fine arts can be the reasearch subjects in future studies considering that all subsectors are heavily dependent on creativity and do not rely on raw materials or tangible goods. So, it will be interesting to conduct research related to the impact of increasing final-demand on those creative industry sub-sectors to the economy.

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