THE EFFECT OF FACTOR VALUE OF PRODUCTION INDUSTRIAL TEXTILE AND TEXTILE PRODUCTS ON EXPORT AND ITS IMPACT ON GROSS DOMESTIC PRODUCT : PARTIAL LEAST SQUARE APPROACH

Faisal Hasbullah Batubara[1], Elis Masitoh[2]
Faculty of Economy, Polytecnic APP Jakarta[1], Faculty of Economy, University Padjajaran[2]

ARTICLEINFO	ABSTRACT
Keywords: Factors Dominant Textile Industry Export GDP Partial Least Square Introduction.	This study aims to explore the contribution of the dominant factor of textile production in Indonesia to the value of production, export value and gross domestic product. Using monthly data for 5 years of observation and analyzing using the Partial Least Square (PLS) model of empirical and theoretical facts shows something that can be correctly guessed, but the statistics of results are different. The result of analisys show that the Xa - Xd indicator has a positive trend, while Xe and Xf have a negative trend, EV and PV variables have a negative tendency whereas GDP has a positive trend, and are these 3 variables and 1 Latent Variable Dominant Factors having cointegration with each other within the study period.The most dominant indicator is Xb (Value of Investmen) and Xa (Number of Companies) of approximately 100%, then Xc (machine capacity) of 98% and Xe(labor absorption) -95%, then Xf (utility) of -98% Labor absorption contributes negatively to the dominant factor of textile production, meaning that for every increase in the dominant factor of textile production, the absorption of labor is reduced by a contribution of approximately 95%, so its utility is reduced by 98%. Theoretically, the reduced labor absorption must be irritated by the reduced utilization value as well, because the fewer the amount of labor that can be exploited the smaller the level of benefit in the benefit of society. However, other indicators increase with increasing dominance of production.
E-mail: feibatoebara@gmail.com	

1. INTRODUCTION

Textile industry is theoretically and practically is a very strategic industry because this industry holds and provides one of the factors of human needs ie clothing. The need is always increasing every year because of the increasing number of people both in the country within the industry is located and outside the country.

The role is very strategic because in addition to being the main provider of domestic clothing, which reached 70% in 2014 of the total requirement is also a source of foreign exchange income for the country that reached 7.6% in 2014 and creators of employment that reaches 1.7 million people in 2014 (BKPM Indonesia, 2016).

Some of the things that make this textile industry so important to be developed and enhanced in addition to the above strategic reasons is that the market share in the new world reaches 1.7% in 2014 which means the business and economic prospects for Indonesia (BKPM Indonesia, 2016).

The typically labor-intensive nature of the textile industry makes this industry a social safety net from the income side of its population, creating an income distribution opportunity as it is located throughout Indonesia.

As a member of the WTO and its regional organizations in the region where the implementation of the agreement has been implemented, making Indonesia to create competitiveness so that it can remain an industry that plays a strategic role, especially to improve the gross national product.

Theoretically, if the value of textile production increases then the possibility of increasing the value of exports the greater and will affect the increase in the value of gross domestic product.

The value of textile production is determined by the dominant factor consisting of several things, namely the number of its operating companies, its investment value, the installed machine capacity, the amount of labor and its absorption and the utility it creates.

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Theoretically, the greater the value of the dominant factor of the textile industry, the greater the value of production and is expected to have an impact on rising export value and gross domestil production value.

2. METHOD
2.1 Type and Data Source
This study uses monthly time series data for 5 years from 2011 to 2015 which is sourced from BKPM and BPS Indonesia. The amount of data used is 60 periods and this is enough statistics that apply the PLS model (Hair, 2017).

Data were analyzed using the partial least square (PLS) model with linear and Non linear model as follows.
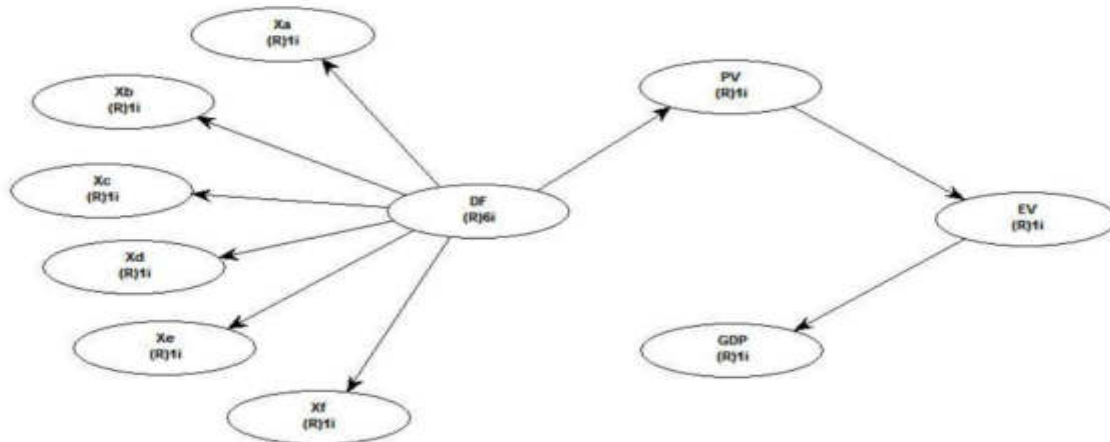

Figure 1. The PLS Hybrid Model of Analysis

Xa - Xf is subvariabel value of dominant factor of textile industry (DF = Dominant Indicator). Xa is the number of companies officially registered in the Ministry of Industry, Xb is the value of investments based on convertible value of the rupiah, Xc is the installed machine capacity in the registered textile industry, Xd is the number of registered labor and registered in the Ministry of manpower and the ministry industry, Xe is the absorption of labor in the textile industry and Xf is the utilization of the textile industry. PV is value of production of textile industry, EV is variable of export value and GDP is Gross Domestic Product.

The most important of this study is to determine whether the subvariable value of the dominant factor of the textile industry is reliable or not statistically and if which of the subvariables is the most dominant contribution to the dominant factor of the textile industry so that strategic planning can be made there on.

2.2 Analysis Method
This study uses SEM PLS in because it has been proven through tracing that no previous research has ever been conducted, especially in Indonesia, which analyzed the dominant factor in the textile industry in the context of macro economy, especially in IndonesiaThe research hypothesis is:

H1 : The dominant factor (DF) has a direct significant positive effect on the value of Production (PV)
H2 : Production value (PV) has a direct significant positive effect on Export value (EV)
H3 : The export value (EV) has a direct significant positive effect on Gross Domestic Product (GDP)
H4 : The dominant factor (DF) has an indirectly significant positive effect on export value (EV) and product domestic product (GDP), there is 3 Segment indirect effect
H5 : The value of production (PV) has a significant positive indirect effect on gross domestic product (GDP), there is 2 segment indirect effect

3. RESULT AND DISCUSSION
3.1 Descriptive Analysis
Based on the data used in this study, the description is as follows:

Table 1. Description of Statistics for Indicators and Variables

	Xa	Xb	Xc	Xd	Xe	Xf	EV	PV	GDP
Mean	5105,421431	198049,8	9865889	1513435	33254,4	0,69444	12704657	22067303,6	6742883,86
Standard Error	21,76386597	3729,881087	99464,75	7078,095	7136,323	0,008572011	55307,33	259329,744	465460,8479
Median	5184,521991	199455,5741	10154889	1523130	66813,96	0,718314699	12673428	22485164,2	8513735,434
Mode	4870	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Standard Deviation	168,5821809	28891,53457	770450,6	54826,68	55277,72	0,06639851	428408,7	2008759,56	3605444,224
Sample Variance	28419,95173	834720775,4	5,94E+11	3,01E+09	3,06E+09	0,004408762	1,84E+11	4,0351E+12	1,29992E+13
Kurtosis	-1,725280822	-1,644067433	-1,3451	-0,12064	-1,66967	0,702841039	2,416152	-0,7381345	-0,567334093
Skewness	-0,346901429	-0,033222116	-0,08116	-0,79091	-0,43802	-1,30482177	1,317029	-0,6519971	-0,679796105
Range	408,0289352	75341,47106	2474429	203272	141493	0,244016435	2174822	6743262,29	14248894,92
Minimum	4870	160304,9387	8820626	1380715	-49427,9	0,511813079	11921056	17638873	142258,926
Maximum	5278,028935	235646,4097	11295055	1583987	92065,19	0,755829514	14095877	24382135,3	14391153,85
Sum	306325,2859	11882988	5,92E+08	90806088	1995264	41,6664	7,62E+08	1324038216	404573031,6
Count	60	60	60	60	60	60	60	60	60
Largest(1)	5278,028935	235646,4097	11295055	1583987	92065,19	0,755829514	14095877	24382135,3	14391153,85
Smallest(1)	4870	160304,9387	8820626	1380715	-49427,9	0,511813079	11921056	17638873	142258,926
Confidence Level(95,0%)	43,54939522	7463,474816	199028,5	14163,23	14279,75	0,017152554	110669,7	518917,62	931385,0053

The dominant factor variable in textile production in Indonesia consisting of Xa - Xf, during 60 months period has a very large variation, this indicates that during 60 months of observation based on empirical data provide info that there has been a very big change from time to time topped it. Variable Number of companies (*Xa*) for 60 months of observation of at least 4870 companies and this is the most dominant number, compared to at most 5278 companies. This indicates that the number of textile companies in Indonesia during the observation period is decreasing or less than it should be and the fact that in the 60th month, the number of companies decreased. In contrast to the increasing number of workers is not accompanied by rising export value.
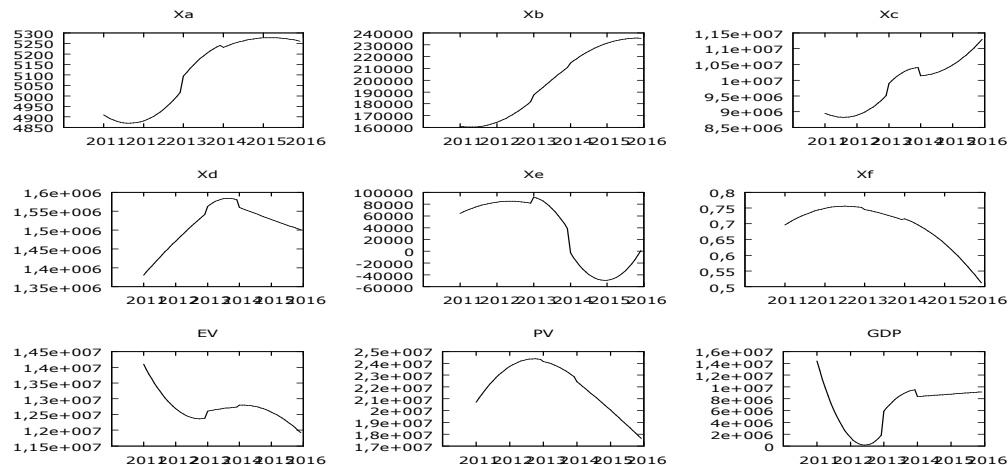

Figure 2. Movement Structure from time to time Indicators and Variables

Based on the above picture, it is easy to know that the Xa - Hd indicator has a positive trend, while Xe and Xf have a negative trend, how much contribution of positive or negative tendencies in the variable factor will be seen in the next analysis.

EV and PV variables have a negative tendency whereas GDP has a positive trend. Are these 3 variables and 1 Latent Variable Dominant Factors having cointegration with each other within the study period, will be explained in the following analysis.

3.2 Partial Least Square Analysis with Linear and NonLinear Modeling

Linear PLS model is a model that is based on trend analysis that allows data to be described (data movement tends to be positive or negative over time), while non linear PLS model analyzes the movement of data from time to time as it is with the projection of a model that is close to the real.

Whether or not a model is based on consideration of parameter loading coefficient, coefficient of determination, fit and quality indices model
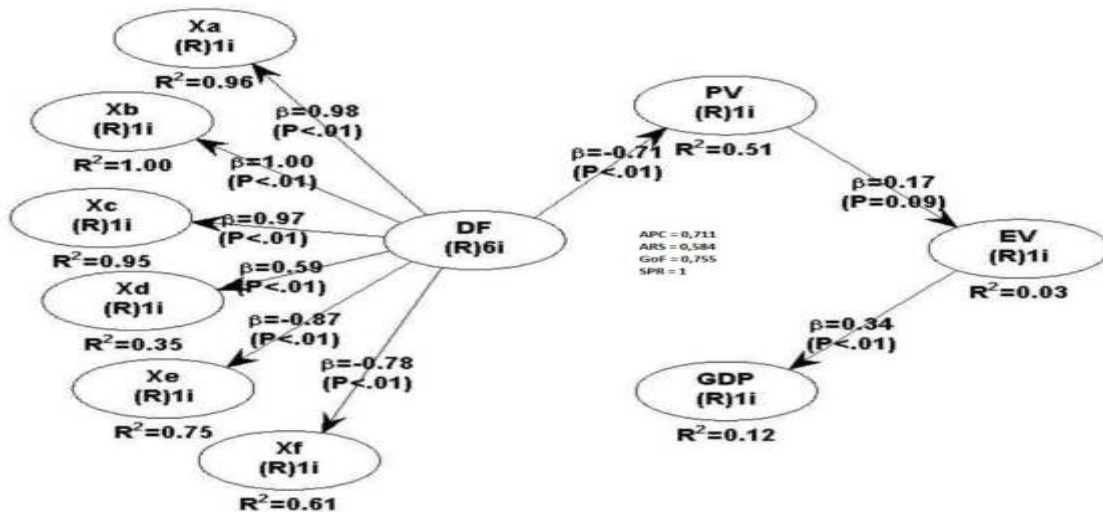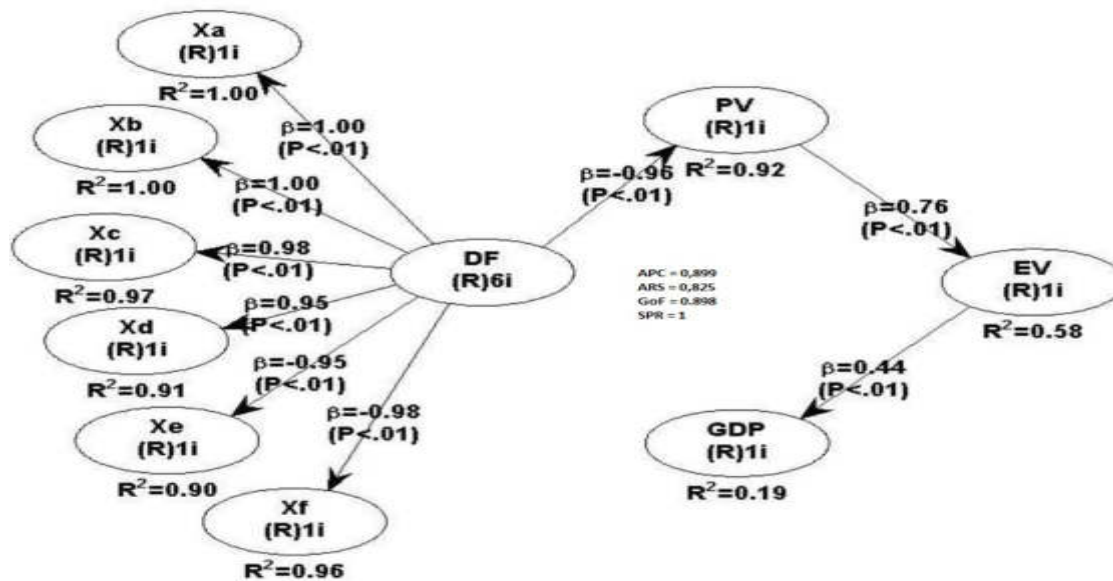

Figure 3. PLS Linear Model

Figure 4. PLS NonLinear Model

The results of the analysis clearly show that the NonLinear OLS model is the best because the fit and Quality Indices values such as APC, ARS and GoF are all above the Linear model value. Parameter loading and Rsquare as well as existence, nonlinear model shows its superiority mathematically. Thus, this analysis will then use the findings based on the non linear PLS model. Using the same data, hypothesis test results based on the proposed model, the result is as follows:

Reflective, all the dominant indicators of textile production are statistically significant with the error rate not exceeding 5%. The most dominant indicator is Xb (Value of Investmen) and Xa (Number of Companies) of approximately 100%, then Xc (machine capacity) of 98% and Xe(labor absorption) -95%, then Xf (utility) of -98% Labor absorption contributes negatively to the dominant factor of textile production, meaning that for every increase in the dominant factor of textile production, the absorption of labor is reduced by a contribution of approximately 95%, so its utility is reduced by 98%.

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Theoretically, the reduced labor absorption must be irritated by the reduced utilization value as well, because the fewer the amount of labor that can be exploited the smaller the level of benefit in the benefit of society. However, other indicators increase with increasing dominance of production.

3.3 Hypothesis Testing

Using the hypothesis in this study that the dominant factor (DF) has been not proven to be true statistically, that is equal to -0.96 or equal to 96%. In other words, the direct contribution of the dominant factor of textile production to the value of textile production is negative 96%. Thus partially hypothesis 1 has been answered statistically false (Ho cannot rejected).

Furthermore, the hypothesis test between the value of production to the export value (EV) stating that the Production Value (PV) has a direct positive positive effect on Export Value (EV) is true even with a significance level of 1%, where the contribution of production value is 75% export value (overall). This fact shows that the real power of export value which is 75% or less is equivalent to 3/4 the value of Indonesian exports contributed by textile exports shows that how strong the industry is in Indonesia. Partially can be proved by statistics that the value of textile production significant impact to the value of Indonesian exports.

The 3rd hypothesis test that The export value (EV) has a direct significant positive effect on Gross Domestic Product (GDP) is also statistically, because empirically it shows that the contribution of export value to gross domestic product is 44% with error rate less than 1% . Thus partially can be proven that the value of exports which is also contributed by the value of textile production contributes to gross domestic product.

The fourth hypothesis test (indirect effect test of 3 segments) and the 5th hypothesis test (indirect effect test 2 segment) is The dominant factor (DF) has an indirectly significant positive effect on export value (EV) and product domestic product (GDP) and The value of production (PV) has a significant positive indirect effect on gross domestic product (GDP). This test is to prove whether indirectly the dominant factor affects the gross domestic product through its influence on the value of exports. The results are shown by the following data:

Table 2. Indirect Effects 2 and 3 Segment between DF to EV and to GDP mediation by PV

Variable					
	DF	PV	EV	GDP	P Value
DF			-0.730*		<0,001*
PV				0.344*	<0.001*
EV					
GDP	-0.321**				<0.001**

*2 Segment Indirect Effect, ** 3 Segment Indirect Effect

The results of the 5th hypothesis test statistically show an indirect and significant influence of 0.344 or equal to 34.4%. Although the value is less than the direct influence, the empirical facts show that the value of exports can generally be an intermediary of rising GDP when the value of production increases.

4. CONCLUSION

The textile industry in Indonesia should be the host in its own country considering the huge number of population and the number 4 in the world (BPS Indonesia, 2016).

The growth of textile production should keep pace with the ever-increasing population growth in line with the rise of other economic indicators such as production and general exports aimed at increasing GDP.

Empirical facts show that the dominant factor of Indonesian textile production gives a negative effect directly on the value of production in general, this is contributed by the indicators of labor absorption and utility value of the textile industry is negative. This should be of concern to Indonesia because the results of this analysis show that the textile industry in Indonesia does not have a direct positive impact on the production value and indirectly on Indonesia's GDP because in fact the parameters found are negative.

The increase in the number of workers per month seems unlikely to be absorbed by the textile industry so as to provide utility value minus the industry.

Although theoretically these results indicate uncertain coefficients must always be negative because the model is nonlinear but in the short term the model explains that the dominant factor of the textile industry in Indonesia gives negative effect on the value of production as a whole.

This study concludes the empirical findings that are believed to be true that in addition to the dominant factor of the textile industry, all other variables ie production value, export value and GDP have a positive impact among them.

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