

ECONOMIC AND SOCIAL DEVELOPMENT IN GLOBAL PRODUCTION NETWORKS: LESSONS FROM THE INDONESIAN FOOTWEAR INDUSTRY

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ABSTRACT

As an ASEAN country with strong annual economic growth, Indonesia is improving its global competitiveness. Indonesia's participation in global production networks (GPNs) generates a positive impact on its industries. The labor-intensive Indonesian footwear industry has undergone rapid development. High domestic and foreign demand for the country's footwear has led to rapid development and domestic employment gains. This research reviews the implications of GPNs on industrial development and social well-being. It uses the economic and social development of the Indonesian footwear industry as a case study. The paper uses a parsimonious approach to measure economic and social conditions in this industry. Based on the results, the Indonesian footwear industry has experienced "high-road" growth, showing improvements in key economic and social standards.

Keywords: Global production network; Global value chain; Economic and social development; Footwear industry; Employment.

1. INTRODUCTION

The United Nations ranks Indonesia as the world's fourth most populous country. Indonesia will enjoy a demographics bonus until 2035 thanks to its population of young, productive-age workers (also called an expansive population pyramid). This population growth brings advantages and disadvantages to the country and will require skillful government management. A large number of workers can depress wages. In turn, this could increase interest from domestic and foreign investors seeking to invest capital in Indonesia due to low-cost labor. Ultimately, this process could encourage economic growth. However, a lack of job opportunities could increase unemployment and cause poverty. Therefore, many analysts believe the government should seek to reduce unemployment. Indonesia's participation in global production networks (GPNs), particularly in labor-intensive sectors, has been shown to have a positive effect on employment. Many of these new jobs

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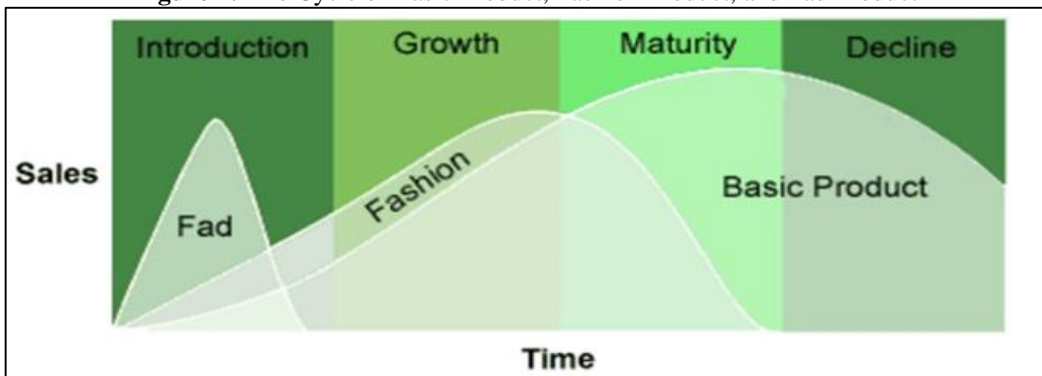
associated with GPNs are filled by laborers with varied characteristics. The workers are young or old, experienced or inexperienced, and skilled or unskilled.

As a developing country, Indonesia has seen its economy transform from a reliance on resources (i.e., agriculture, mining, etc.) to manufacturing. It's a well-known process called industrialization. Modern industrialization is characterized by the use of technological innovation to solve problems. The work changes from manual labor to mechanized mass production with a more efficient division of labor. Craftsmen are replaced by assembly lines.

Developing countries face key challenges improving the position of firms and workers as they become integrated into GPNs. Indonesia's Ministry of Industry (MoI) has prioritized the top six industry sectors, raising them to investment grade. They are: labor-intensive industry (including apparel and footwear); small- and medium-sized industry; capital-goods industry; natural resources-based industry; industry with rapid growth (including automotive, electronics and telematics) and special-priority industry like cement and petrochemicals. These industries were chosen because of their ability to generate employment. All priority industries supported by the Ministry of Industry are included in the National Industrial Development Master Plan. With a population of more than 250 million, Indonesia is a potential market for its own industries (number 7).

Footwear is one of Indonesia's key industries. It emerged to solve a basic need: Help people protect their feet from extreme weather. As time passed, footwear also developed into a means of personal expression, taking on a fashion role as shown in Figure 1.

Figure 1: Life Cycle of Basic Product, Fashion Product, and Fad Product



Source: Kotler (2006)

Due to its fashion features, footwear consumption volume has increased as its lifecycle has shrunk. As a basic product, footwear production and consumption will likely endure throughout human civilization. When population growth and income increases, footwear consumption also increases. Over a five-year period (2012–2016), footwear consumption has increased from two pairs to three pairs per capita.

Table 1: Total Footwear Produced by 10 Biggest Producers and Total Footwear Produced around the World (in Pairs)

	2011	2012	2013	2014
Number of footwear produced by 10 biggest countries (in million)	18,127	18,697	20,050	21,762
Number of total produced (in million)	20,185.96	21,270.76	22,528.09	24,315.08
Percentage of share for the 10 biggest producer countries	89.8%	87.9%	89%	89.5%

Source: APICCAPS, taken from the Ministry of Labor Decree Number 112 of 2016

In recent years, the footwear industry has grown around the world. Based on estimates from the Portuguese Footwear, Components, Leather Goods Manufacturers (APICCAPS), global footwear production reached 21,762 billion pairs in 2014, an 8% increase from the previous year. Footwear volumes produced in 2011–2014 are shown in Table 1.

In 2014, the top 10 footwear-producing countries were: China, India, Vietnam, Brazil, Indonesia, Pakistan, Turkey, Bangladesh, Mexico, and Italy. These 10 countries provided footwear for almost 90% of the world's population. Among producer countries, most are Asian (87%), followed by South American (5%), African (3%), European (3%), and North American (2%). Indonesia ranked fifth, producing 3% of global footwear. Footwear consumed in 2011–2014 is shown in Table 2.

Table 2: Total Footwear Consumed by Ten Biggest Consumers and Total Footwear Consumed around the World (in pairs)

	2011	2012	2013	2014
Number of footwear consumed by 10 biggest countries (in million)	10,900	10,735	11,751	11,754
Number of total consumed (in million)	17,496	17,399	19,359	19,460
Percentage of share for the 10 biggest consumer countries	62.3%	61.7%	60.7%	60.4%

Source: APICCAPS, taken from the Ministry of Labor Decree Number 112 of 2016

In 2014, the 10 countries that consumed the most footwear were: China, the United States, India, Brazil, Japan, Indonesia, the United Kingdom, Germany, France, and Russia. Based on APICCAPS data, Indonesia ranked sixth in 2014, consuming 548 million pairs of footwear, or 2.8% of total global footwear consumption.

These high levels of domestic and foreign footwear consumption have strengthened the Indonesian footwear industry. According to the Indonesian Footwear Association (Aprisindo), in 2012 Indonesian labor costs per hour were higher than in China, Vietnam, and Cambodia. Indonesian labor costs per hour are \$1.03. That compares to \$0.91 in China, \$0.46 Vietnam, and \$0.28 in Cambodia. In 2016, Indonesia ranked sixth in the world for footwear exports as shown in Table 3 (number 3):

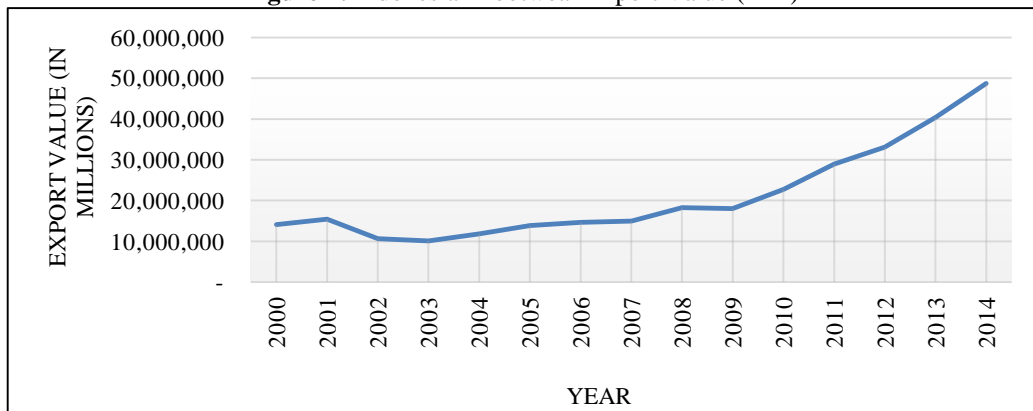
Table 3: The World’s Top 15 Footwear Exporters in 2016

Rank	Country	USD (Millions)	World Share
1	China	47,804	35,3%
2	Vietnam	17,852	13,4%
3	Italy	10,708	8,0%
4	Germany	6,036	4,5%
5	Belgium	5,968	4,5%
6	Indonesia	4,640	3,5%
7	Netherlands	3,493	2,6%
8	France	3,397	2,5%
9	Hong Kong	3,139	2,3%
10	Spain	3,090	2,3%
11	India	2,748	2,1%
12	UK	2,181	1,6%
13	Portugal	2,178	1,6%
14	Romania	1,581	1,1%
15	USA	1,448	1,0%

Source: Indonesian Footwear Association (Aprisindo) Country Report 2017

As a steady creator of jobs and a contributor to gross domestic product (GDP), the Indonesian footwear industry is a growing sector. According to UN Comtrade data, export values for the Indonesian footwear industry increased dramatically from 2000 to 2014, as shown in Figure 2.

Figure 2: Indonesian Footwear Export Value (IDR)



This paper analyzes the ways in which economic and social development in GPNs are measured in the Indonesian footwear industry. It uses a parsimonious approach to measure economic and social conditions in a labor-intensive sector. The results will then be used to identify and assess conditions in the Indonesian footwear industry.

2. LITERATURE REVIEW

2.1. *Global Production Networks*

In order to remain competitive, producers seek ways to minimize production costs. One approach widely used in recent decades is to move the production location to a developing country. Footwear has a typical buyer-driven production chain (Coe et al., 2013). Labor-intensive products are manufactured under specifications and designs originally developed by brand-name and global retailing companies (often called “manufacturers without factories”). In this approach to manufacturing, these “manufacturers without factories” capture the high-value-added activities, even without their own plants. Today, global production has moved from brand-name, global retailing and farming companies to subcontracting and small-holding companies (Barrientos et al., 2011). Firms engaged in GPNs have a chance for economic and social upgrading by getting involved aggressively with higher-value added production or repositioning themselves within a value chain.

A GPN is defined by Sturgeon (2001) as a set of inter-firm connections that bind a group of firms into a larger economic unit. Integration with GPNs generate positive momentum for developing countries and strengthen their economic competitiveness. Rossi (2011) defined GPNs as global brand-holding companies outsourcing production activities to low-cost locations in developing countries while maintaining the higher-value-added, intangible activities as their core business. As the world’s fourth most populous country, Indonesia supplies a large workforce with a relatively cheap labor cost. Furthermore, as one of the largest footwear-producing countries in the world, Indonesia is involved extensively with export and import activities. Whether to meet business standards or to reduce production costs, materials need to be imported. This activity connects Indonesia with other countries in the world (1).

From an economic and social perspective, GPNs have a mixed impact on developing countries. According to Kuroiwa and Toh (2008), a GPN consists of a principal or flagship firm with local suppliers participating at various hierarchical levels within the value chain activities. Consequently, the growth, strategic direction, and position of suppliers within the network strongly depends on the flagship firm’s strategy.

Ernst and Kim (2002) classify principal/flagship firms into two categories: brand-leading companies and contract-manufacturing companies. Brand leaders allow local suppliers to be independent but demand high performance, whereas contract manufacturers establish an autonomous and integrated supply chain available to brand-leading companies. Brand leaders are best exemplified by leading sports shoe brands such as Adidas, Nike, and Reebok. Firms involved in GPNs can raise their production capabilities by learning from relationships with buyers as suppliers seek to produce internationally competitive goods and services. A UNIDO report found that between 1985 and 1998 22 countries changed their Competitive Industrial Performance (CIP) rankings by 10 or more places. Countries near the top and bottom tend to have relatively stable positions, while those in the middle are more volatile. The chief reason why some countries could achieve large upward

moves was due to their deep connections with GPNs, which significantly boost the share of complex export products (UNIDO, 2002).

2.2. *Economic Upgrading*

Economic upgrading is a transformation process by which such economic actors as nations, firms, and workers move from lower-value to higher-value added activities in GPNs (Gereffi, 1999). For example, upgrading in the garment/apparel sectors implies “the move from mere assembly of imported inputs to a more domestically integrated and higher value-added form of exporting” (Gereffi, 1999). Morrison et al (2006) define economic upgrading as the producers’ ability to make products better, more efficiently, and more advanced with more skilled workers.

Researchers classify economic upgrading into four distinct types:

1. *Process Upgrading*: Improvements in production-process efficiency achieved by technological advancement and reorganizing of production systems (Humphrey, 2004; Humphrey and Schmitz, 2002; Rossi, 2011). The requirement for continuous improvement and pushing unit costs down drives this upgrading (Salido and Bellhouse, 2016).
2. *Product Upgrading*: Advancement in product types, which often requires higher skilled jobs to produce more sophisticated features.
3. *Functional Upgrading*: Moving into higher value-added tasks by changing the activity mix performed. The functional upgrading process can be identified as the move from assembly to original equipment manufacturer (OEM) to original design manufacturer to original brand manufacturer (OBM) (Humphrey, 2004; Gibbon and Ponte, 2005).
4. *Chain Upgrading*: Shifting into a more technologically advanced production chain by moving into new product markets or industries, which often use different marketing channels and manufacturing technologies (Gibbon and Ponte, 2005; Rossi, 2011)

2.3. *Social Upgrading*

Economic growth cannot happen without economic upgrading. But economic upgrading can occur without social upgrading. Achievements in labor productivity and efficiency as a result of economic upgrading is not clearly correlated with achievements in employment, wages, working conditions, or other factors that contribute to socioeconomic improvements. Some have defined social upgrading as an improvement in workers’ rights and social life, resulting in better conditions (Barrientos et al., 2010). Social upgrading can be defined as better living standards, social well-being, and better employment conditions over time. The most essential factors of this process are employment and wages, followed by working conditions. Social upgrading has also been described as an improvement in workers’ rights and entitlements, which increases the quality of their employment (Rossi, 2011; Sen, 1999, 2000). Upgrading includes wider access to job opportunities; a worker who has better skills always has a better chance of moving into a better job in GPNs. Likewise, enhancing worker protections, working conditions, and worker rights can lead to better support for families and communities.

Social upgrading can be split into two major components: measurable standards and enabling rights (Elliott and Freeman, 2003; Barrientos and Smith, 2007). Measurable standards are workers’ well-

being as quantifiable aspects that can be easily observed and collected. They include: worker gender protection and unions, with an allocated percentage of male and female supervisors or a number of union members in the workforce. Measurable standards are frequently generated from a more complex process based on workers' rights.

Some elements are not easily quantified. These may include: the right to join a union; collective bargaining; non-discrimination in workplace environments; and worker empowerment. Anker et al (2002) offered 11 indicators of measurable variables. They are: unacceptable work; employment opportunities; adequate earnings and productive work; stability and security of work; decent hours; combining work and family life; safe work environment; fair treatment in employment; social protection; and economic and social context of decent work; and social dialogue and workplace relations.

2.4. *Connections Between Economic and Social Upgrading*

Several factors can influence the correlation between economic and social upgrading. These include specialties of specific industries; the role within the global production chain; proportion of total labor; and the status of workers, among others. Previous studies have found that economic upgrading sometimes brings social benefits to permanent workers, whereas casual workers often experience social downgrading (Lee et al., 2013; Rossi, 2013; Bernhardt and Milberg, 2012). Governance and lead-firm policies can focus on outcomes for workers' quality of life at all stages of the production chain (Nathan and Sarkar, 2011; Rossi, 2013).

The connections between economic and social upgrading have been studied in econometrics. Flanagan (2006) looked at wage and labor productivity growth in a 45-country sample of the apparel and footwear industries during the period 1995–1999 and found a very high correlation. It corresponds with the marginal productivity theory of income distribution and the perception that economic upgrading encourages social upgrading in a variety of sectors. This finding needs to be proved by a wider sample of countries and over a longer period of time. Based on Bernhardt and Milberg (2012), there are four combinations of economic and social development, as shown in Figure 3.

Figure 3: Economic and Social Upgrading/Downgrading

		Social Realm	
		Upgrading	Downgrading
Economic Realm	Upgrading	High-Road Growth	Low-Road Growth
	Downgrading	High-Road Decline	Low-Road Decline

Sources: Bernhardt and Milberg (2012)

In this matrix, economic upgrading or downgrading may be combined with social upgrading or downgrading. It is possible for social upgrading to occur without economic upgrading as well as for a country to experience simultaneous economic and social downgrading.

3. RESEARCH METHOD

3.1. Methodology

The study used a parsimonious approach developed by Bernhardt and Milberg (2012) to analyze economic and social upgrading with several modifications. This method was chosen because of its simplicity and ability to extract information using a few variables. First, each variable is calculated based on its indexing formula (see Table 4) so that we can obtain a trendline from each variable. Then, we determine the average index for five economic variables and six social variables in order to show general trends in each realm. The equations are (number 5–6):

$$\begin{aligned} \text{Economic Upgrading/Downgrading} &= 0.2 * (\% \text{ change in labor productivity}) + 0.2 * (\% \\ \text{change in value} &\text{ added}) + 0.2 * (\text{change in export value}) + 0.2 * \\ (\text{export market share}) &+ 0.2 * (\text{change in skill intensity of employment}) \end{aligned}$$

$$\begin{aligned} \text{Social Upgrading/Downgrading} &= 0.167 * (\% \text{ change in wages}) + 0.167 * (\% \text{ change} \\ \text{in employment}) + &0.167 * (\% \text{ change in allowance}) + 0.167 * (\% \\ \text{change in improvement} &\text{ in work hours}) + 0.167 * (\% \text{ change in share of} \\ \text{women in formal} &\text{ employment}) + 0.167 * (\% \text{ change in share of for-} \\ \text{mal workers}) & \end{aligned}$$

A simple linear regression trend line was added to determine whether economic and social upgrading/downgrading occurs. The general equation of a linear trend line is:

$$Y = aX + b$$

Where Y is each variable that shows a trend, and X is the time variable (year). As a result, it provides a framework to measure whether economic or social upgrading/downgrading occurs. It also simplifies the analysis of the relationship between these two kinds of upgrading/downgrading. Economic upgrading is understood as competitiveness gains within an economy, region, sector, firm, or production network. Similarly, social upgrading can be understood as gains in employee well-being within an economy, firm, or production network (Salido and Bellhouse, 2016).

In general, most previous literature has used export growth and the growth of export market share to measure economic upgrading/downgrading; likewise, employment and wage growth are generally used to measure social upgrading/downgrading. The same variables will be used in this study along with additional variables to allow us to obtain a more comprehensive and reliable description

about whether a sector experiences upgrading/downgrading. This study was conducted using 15 years of data covering the 2000–2014 period, with 2010 as the base year for calculating the index.

3.2. *Variables Used*

The variables chosen refer to Milberg and Winkler (2011), with the footwear sector as the level of aggregation. All variables were obtained from two main sources: (1) United Nation Comtrade for Indonesian export values and total global export values; and (2) the Central Bureau of Statistics (BPS) for all other values. The economic variables used in this study are: (1) labor productivity; (2) value added; (3) export value; (4) export market share; and (5) skill intensity of employment. Upgrading occurs when the index shows a positive trend. A negative index indicates economic downgrading. For a precise result, total exports and total global exports variables are converted into rupiah using the average exchange rate for every year of assessment then using a value in 2000 as the base year. In addition, total exports, total exports market share, value added, and labor productivity variables (denominated in rupiah) are adjusted using a GDP deflator. Export values and export market share are used to measure economic upgrading/downgrading. Export value is the total exports of the industry, while the export market share is the total export of the industry divided by the global total exports for that particular industry (2).

Labor productivity and value-added variables were chosen because economic upgrading is associated with higher productivity and value-added activity niches (Milberg and Winkler, 2011). Labor productivity is the ability of workers to create production goods, and it is calculated by dividing value added by total labor. Value added is the total amount of output minus the total amount of input (intermediate cost). The last economic variable is skill intensity of employment, which uses increased numbers of skilled workers as a proxy (Anderson et al., 2001). The level of education is used as a proxy for the skill intensity of employment, where an educated worker is a worker who has completed a minimum of high school or higher education (Wicaksono and Priyadi, 2016).

The social variables used are: (1) wages; (2) employment; (3) allowance (additional income on top of the base salary); (4) improvement in work hours; (5) share of women in formal employment; and (6) share of formal workers. Similar to economic upgrading, social upgrading occurs when the indexes show a positive trend. If the indexes have a negative trend, it means social downgrading. Allowance, improvement in work hours, share of women in formal employment, and share of formal workers can be categorized as improved labor standards. Employment and wage variables are chosen because job creation can help workers elevate their living standards and thereby contributes to social well-being. To obtain an accurate value, nominal wages and allowances are adjusted in line with the consumer price index.

A wage is compensation or returns in the form of money paid or received for work or services by the hour, day, week, or month. Employment is the total number of people gainfully employed/working in an industry. Total benefits or allowance is additional income beside basic salary. It consists of pension contributions, social and accident allowances, insurance, and so forth. The definition of formal workers is an employee/laborer or self-employed worker who is assisted by permanent paid workers. Formal self-employed workers work at their own risk and therefore must employ at least one laborer/permanent paid worker. The share of formal workers is calculated by dividing total formal workers by total employment in the industry. The share of women in formal employment is the ratio of total women in formal employment to total formal employment in the

industry. Determining the share of women in formal employment is important in order to reveal the gender dimension in social upgrading. The last social variable is decent work hours. The International Labor Organization (ILO) defines decent work hours as a maximum of 48 hours per week. Improvement in work hours is calculated by dividing the number of workers who have decent work hours by the total work hours in the industry (2). The calculation of each variable can be summarized in Table 4 below (number 5–6).

Table 4: The Calculation for Each Variable

Variables	Calculation
Economic Variables	
Labor Productivity	1. Value Added: Total Labor 2. Adjust to Inflation (GDP Deflator)
Value Added	1. Output–Input 2. Adjust to Inflation (GDP Deflator)
Export Value	1. Adjust to Rupiah Exchange Rate 2. Adjust to Inflation (GDP Deflator)
Export Market Share	1. Total Export: Total World Export 2. Adjust to Rupiah Exchange Rate 3. Adjust to Inflation (GDP Deflator)
Skill Intensity of Employment	Skilled Labor: Total Employment
Social Variables	
Wages	Adjust to Consumer Price Index (CPI)
Employment	-
Allowances	Adjust to Consumer Price Index (CPI)
Improvement in Work Hours	Number of Workers Who Have Decent Work Hours: Total Work Hours
Share of Women in Formal Employment	Total Women in Formal Employment: Total Formal Employment
Share of Formal Workers	Total Formal Workers: Total Employment

As with all methodologies, there are some weaknesses when using a parsimonious approach. The rate-of-change analysis has difficulties dealing with a small scale, small sample size, or short time periods. By using 15 years of data, we hope that some of the problems associated with time-period identification can be avoided.

4. RESULTS AND DISCUSSION

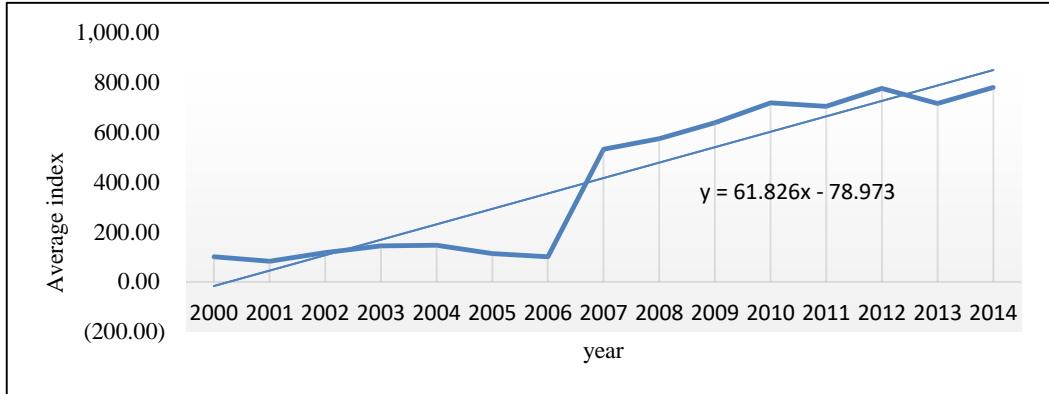
4.1. *Economic Upgrading*

According to the trend line analysis, the Indonesian footwear industry underwent economic upgrading for the 2000–2014 period, as shown in Figure 4. This is obtained from a positive result of the total average indexes for the last 15 years.

The variables that contributed most to economic upgrading are skill intensity of employment, labor productivity, value added, and export market share. Unexpectedly, export is the only variable that

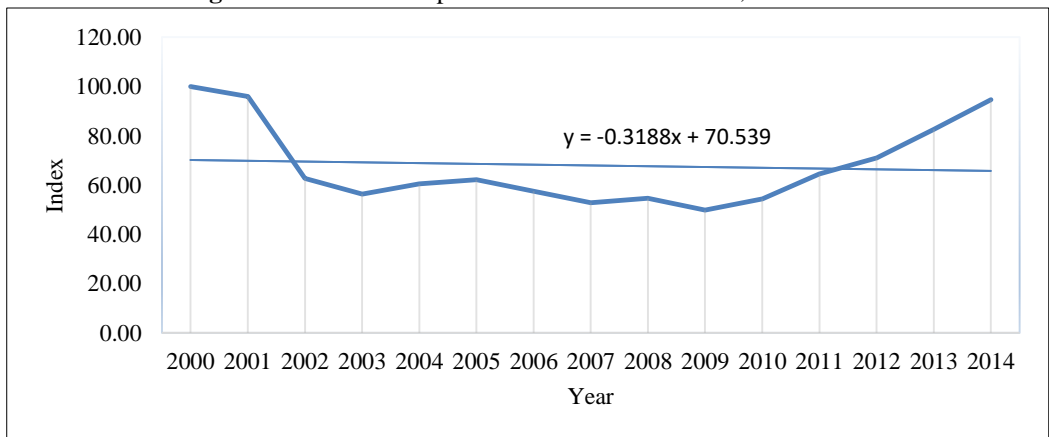
has a negative trend (downgrading). Variables could be correlated with each other. A change in one variable can affect other variables. These variables and their influence are discussed in the following subsections.

Figure 4: Economic Upgrading in the Indonesian Footwear Industry, 2000–2014



4.1.1. Export and Export Market Share

Figure 5: Pattern of Exports in the Footwear Sector, 2000–2014

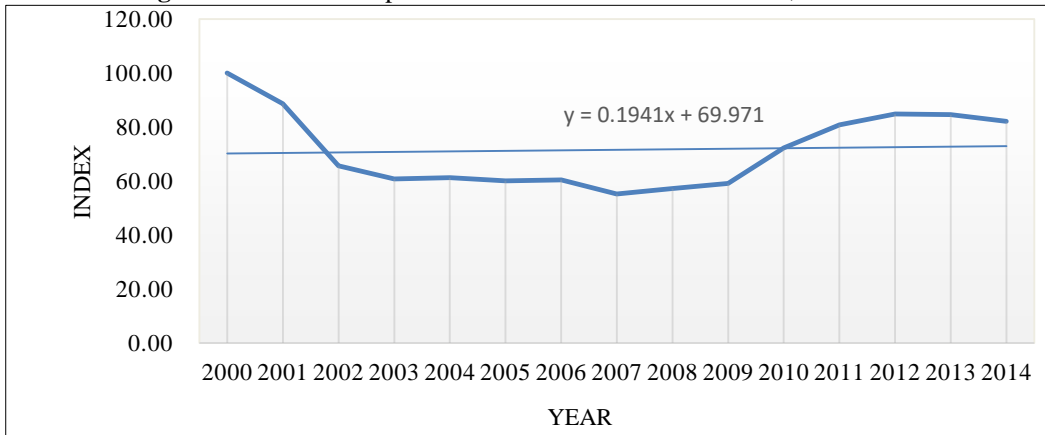


Export values and export market share are the most important aspects for determining a nation's export performance. Among five other variables, export and export market share contribute the least to economic upgrading. This may be surprising because the trend of nominal export values for the 2000–2014 period increased, as shown in Figure 2. This low influence, however, occurred because the indexes used in this study adjusted nominal export values using a GDP deflator. In

addition, some factors that allegedly caused declining exports were global in nature (e.g., the Lehman Shock, the U.S great recession) or were due to a more complicated bureaucracy. Global crises shrink people's purchasing power, as happened during 2007–2008. The problems posed by government regulation can be seen when investors moved their firms from Indonesia to Thailand and Vietnam because of frequent labor demonstrations and higher Indonesian minimum wages.

In contrast, export market share shows a positive trend, indicating that Indonesian footwear products are internationally competitive (Bernhardt and Milberg, 2012). Figures 5 and 6 illustrates the slopes for exports and export market share.

Figure 6: Pattern of Export Market Share in Footwear Sector, 2000–2014



This figure indicates that exports have a negative slope, whereas export market share has a positive slope. Indonesian footwear products have an advantage over Vietnamese and Thai products because its products show better craftsmanship (i.e., stitched more neatly).

4.1.2. *Labor Productivity*

Labor productivity measures workers' ability to create goods. It is calculated by dividing value added by total labor. The Indonesian footwear industry's labor productivity index shows a positive slope, which can be interpreted as an increase in value-added goods every year. This increased labor productivity can indicate the occurrence of process upgrading. This could have been achieved by substituting capital for labor through automation (Humphrey and Schmitz, 2002) or by increasing worker dexterity through education and training (Barrientos et al., 2011).

4.1.3. *Value Added*

Value added is calculated as total output minus total inputs. The value-added index shows a positive slope, which could be associated with a rise in product quality. Firms can sell these better-quality products at a higher price. Through knowledge and technology transfers, learning-by-doing, and developing a competitive advantage, companies upgrade their production and accrue a higher share of value add (Rossi, 2011).

4.1.4. Skill Intensity of Employment

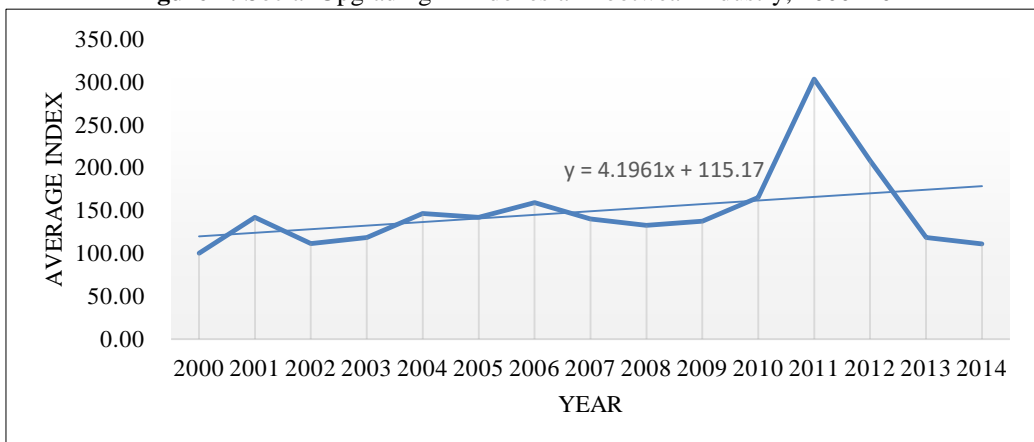
This variable contributed the most to economic upgrading. Educational attainment is used as a proxy for skill intensity of employment, where an educated worker is defined as a worker who has completed a minimum of high school or higher education (Wicaksono and Priyadi, 2016). In this study, a worker needs to be at least a junior high school graduate to qualify as a skilled worker. Workers with higher skills are supposed to have more opportunities than lower-skilled workers and can specialize in activities that create more value added, make a better product, and increase production efficiency. Increasing the skill intensity of employment in the footwear industry is in line with the government program making education compulsory for nine years, from elementary through junior high school. Increasing the numbers of skilled labor can lead to product upgrading, where a firm needs skilled workers to operate advanced technology.

From all explanations of economic variables, we conclude that the Indonesian footwear industry experienced trend upgrading. Export is the only variable that experienced downgrading. In this case, economic upgrading happened because each variable has the same weight. The four remaining variables (export market share, labor productivity, value added, and skill intensity of employment) have a positive trend, and the average calculation result also shows a positive trend (4).

4.2. Social Upgrading

According to the trend line analysis, the Indonesian footwear industry has also undergone social upgrading, but to a lesser extent compared with economic upgrading, as shown in Figure 7. This reflects the positive results obtained for total average indexes for the last 15 years.

Figure 7: Social Upgrading in Indonesian Footwear Industry, 2000–2014



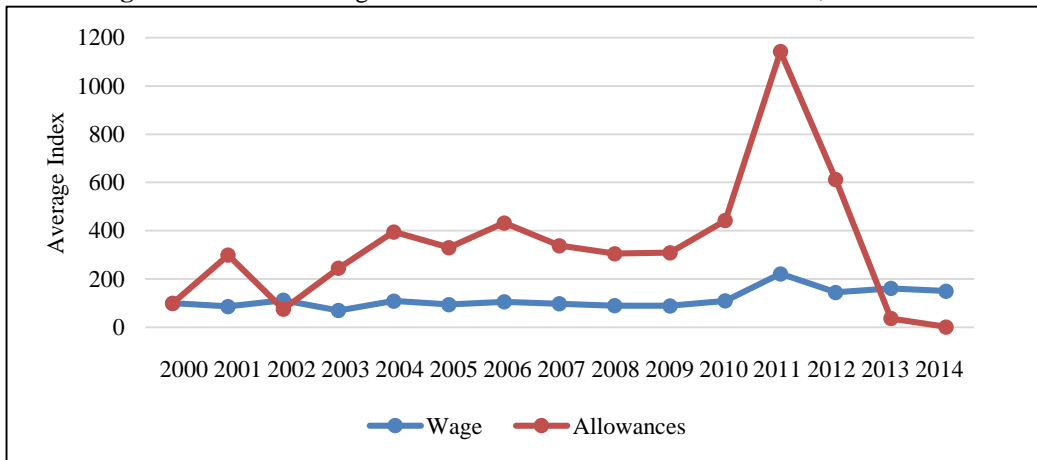
Variables that contributed the most to social upgrading are allowances, women in formal employment, wages, and improvement in work hours. The remaining two variables show negative values, reducing the total average indexes. Variables could be correlated with each other; a change in one

variable can affect the other variables. Each variable is discussed individually in the following sections.

4.2.1. *Wages and Allowances*

Real wages are an indicator of how much workers gain from the value created in their sector and demonstrate labor's bargaining power (Bernhardt et al., 2013). Allowances are additional income outside of the base salary (e.g., pension contributions, social and accident allowances, insurance, and so forth). These two variables show increasing trends in the same direction, even though the fluctuation in allowances is higher than that of wages, as shown in Figure 8.

Figure 8: Pattern of Wages and Allowances in the Footwear Sector, 2000–2014



In most countries, including Indonesia, the minimum wage tends to rise every year to match inflation and economic growth. The minimum wage in Indonesia is set through an annual process led by decentralized wage boards. These boards consist of workers, employers, and government officials (a governor or mayor of the province or district), who then estimate the amount needed for workers to achieve a minimum decent standard of living for a particular province or district. Presidential Instruction No. 09/2013 regarding the setting of the minimum wage specifies that provincial minimum wages should be equivalent to a provincial minimum decent standard of living in order to close the gap. In theory, higher wages will boost workers' purchasing power, improve workers' living standards, and strengthen domestic consumption (number 8).

4.2.2. *Women in Formal Workforce*

The index for the share of women who are formal workers shows a positive slope (i.e., an increasing tendency every year). Significant improvements can be seen in terms of formalization of female workers in the industry. There is little or no negative gender discrimination against women in the footwear industry. Rather, according to many employers, women are preferred over men due to their perceived dexterity and "agile fingers" (Elson and Pearson, 1981).

4.2.3. *Improvement in Working Hours*

According to the ILO, 48 hours per week is the maximum number of hours that can be considered decent work hours. In the footwear industry, average working hours per week do not tend to exceed 48 hours/week, and work hours have shown slight improvements over time. Improvement in work hours might be due to the process of upgrading that has occurred in the industry; according to Rossi (2013), process upgrading improves labor's working conditions, particularly work hours.

4.2.4. *Employment and Share of Formal Workers*

Both of these variables exhibit a trend line indicative of downgrading. Employment numbers decreased in line with the decline in the value of total exports. Many factors can lead to a decrease in worker numbers (e.g., crises and weakening competitiveness). When a crisis occurs, many employees are laid off. High labor costs and a burdensome bureaucracy erodes competitiveness. This can cause a migration of foreign direct investment from Indonesia.

Formal workers are said to have more opportunities to enhance their social well-being because their stable income offers greater protection from vulnerability (Barrientos and Hulme, 2008). In order to respond to buyers' frequently changing orders, short lead times, and production costs, companies sometimes simultaneously employ regular workers and casual workers, especially in the finishing segments of the production chain (such as packaging and loading). These casual workers often face excessive overtime as well as discrimination on the basis of wages and treatment (Rossi, 2011).

Economic upgrading needs consistently high quality standards, which are provided by a stable, educated, and formalized labor force. In such cases, economic and social upgrading may be positively correlated, especially when they increase labor productivity. Past studies have found that a sector's integration into a GPN or trade group are strongly and positively correlated with industrial development in the form of economic upgrading (Milberg and Winkler, 2011). The economic and social realms in the Indonesian footwear industry are shown in Figure 9.

Figure 9: The Economic and Social Realm for Indonesian Footwear Industry, 2000–2014

		Social Realm	
		Upgrading	Downgrading
Economic Realm	Upgrading	[Indonesian Footwear Industry] High-Road Growth	Low-Road Growth
	Downgrading	High-Road Decline	Low-Road Decline

5. CONCLUSIONS

This article reviews the role of GPNs for industrial development and social well-being in Indonesia. The results show that the Indonesian footwear industry has experienced high-road growth, meaning improvements to economic and social health according to international standards. We consider this a positive outcome. Nevertheless, the Indonesian government should implement policies that continue to improve long-term growth. In order to improve economic development and to support export-led growth for industries like footwear, we make the following recommendations based on our research:

1. Offer tax incentives for labor-intensive industries. This includes net income tax deductions of 30% charged at a 5% rate for 6–10 years, respectively; an income tax of 10% on dividends paid to foreign taxpayers or a lower rate if there is a tax treaty; and compensation for losses that are older than five years but not more than 10 years.
2. Improve the business climate by cutting regulations, permits, and costs. Shorten the investment processing time; remove value-added taxes for transportation-related machinery and tools; and shorten the dwelling time from 4.7 days to 3.7 days. Ease the process of loading and unloading at ports, and apply a single billing system for port services.
3. Reduce tariffs on electricity, gas, and fuel for industry.
4. Review the provincial minimum wage levels.

Our analysis provides several insights from labor-intensive industries, particularly footwear. On the economic side, the Indonesian footwear industry excels at generating employment for both educated and uneducated labor. It also improves Indonesian export values and drives growth for other sectors. The Indonesian government has encouraged the footwear industry through various incentives, which are expected to attract domestic and foreign investors. In turn, we believe that this investment will continue to boost the country's long-term social development (numbers 9–10).

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