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Modeling Health Insurance Enrollment Decisions in the U.S., Under Preferences Endogeneity: A Bayesian Multinomial Probit Approach

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ABSTRACT

Early work on consumer health insurance preference modeling suggests that workers sorting among employment alternatives reflect their tastes for employment-sponsored health insurance. Focusing on examining the role of health insurance preferences on enrollment decisions into employment sponsored health insurance, this past literature assumes the effects of health insurance preferences to be statistically exogenous. Therefore, extending analysis beyond employment sponsored health insurance preference modeling, while relaxing the exogeneity assumption, this article models the effects of stated consumption preferences for health insurance on revealed choices of health insurance using a framework in which stated consumption preferences are assumed to be endogenous in the statistical sense. A discrete choice analysis is implemented where both stated preferences and choice outcomes are modeled using multinomial probit and estimated within the Bayesian paradigm using a full Gibbs sampler. This estimation strategy is one of the first of its kind in consumer preference modeling, and improves computational efficiency and overall simplicity compared to related work using full information maximum likelihood. The analysis uses data from the 2007 medical expenditure panel survey, and the results provide substantial evidence on the importance of stated consumer preferences on revealed consumption choices of health insurance in the US.

***Keywords**:* Bayesian MCMC, consumer preferences, discrete choice, health insurance, multinomial probit
JEL Classifications: C11, C25, C51, I12, I13

I. Introduction

Choice theory in Economics is based on the twin concepts of willingness and ability to pay. Within the context of health insurance enrollment decisions, attitudinal questions capturing individuals' preferences for health insurance have been shown to have strong predictive power on actual choice behavior (Keane, 2004; Parente et al., 2004). Furthermore, Niankara (2011) suggests that adult respondents in the 2007 MEPS make their health insurance choices in ways consistent with rational choice theory predictions. In this context, it is reasonable to use the discrete choice modeling framework, which relies on the assumption that decision makers are rational, to model adults' health insurance choices. Of interest in this analysis are the effects of stated consumers' health insurance preferences on their revealed choices of health insurance.

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Early work on consumer preference modeling by Goldstein and Pauly (1976) and Feldman et al. (1997) suggests that workers sorting among employment alternatives reflect their tastes for employment-sponsored health insurance. Monheit and Vistnes (1999), using attitudinal measures, found that weak preferences for health insurance are an important factor in the decision by single wage earners to self-select into jobs without insurance. In their more recent study, Monheit and Vistnes (2008) conclude that individuals with weak preferences for coverage are more likely to be uninsured than those with strong preferences. The authors also found that single workers and one-wage-earner couples with weak or uncertain preferences are less likely than those with strong preferences to obtain and to enroll in offers of employment-sponsored health insurance.

The above referenced literature mainly focuses, however, on examining the role of health insurance preferences on enrollment decisions into employment sponsored health insurance (ESI). Furthermore, this literature assumes the effects of health insurance preferences are exogenous in the statistical sense, which in the case of Monheit and Vistnes (2008) was justified by the fact that responses to the stated preference measures were obtained independently of survey questions regarding health insurance status. Therefore, the authors concluded that all concerns of self-selection bias were fully mitigated.

The current article aims to understand how stated consumption preferences for health insurance by adults in the U.S. affect their choices among the three health insurance enrollment categories (Any Private, Public Only, Uninsured), and also to provide a methodol-ogical contribution to the literature. The exogeneity assumption made by previous authors is relaxed, and a model of health insurance choice is considered with the stated health insurance preference variable treated as endogenously determined in the health insurance choice model. The parameters associated with this endogeneity are estimated using the Fully Gibbsian Bayesian Multinomial probit framework by Burgette and Nordheim (2009). The procedure makes use of the data augmentation principle by Albert and Chib (1993), and the partial marginalization principle of van Dyk (2010).

The remainder of the article is organized as follows: Section II describes the empirical model of enrollment decisions. Section III provides an exposition of the analytical strategy. Section IV presents the full Gibbs Markov Chain Monte Carlo sampler for the parameters in the model. Section V describes the data, section VI presents the results, and section VII concludes the analysis.

II. Empirical Model of Enrollment Decisions

The premise underlying the modeling strategy implemented in this article lends itself to the discrete choice framework derived under the assumption of utility maximization behavior by the agents. Individuals are assumed to be rational and to make health insurance enrollment decisions on the basis of a vector of demographic characteristics (Age, Sex, Marital status, Education level) given their needs/ general health conditions captured by the dummies (Excellent, Vergood, Good, and Fairpoor) and enabling factors (Family and personal income, health insurance preference). Although many factors affect this choice process, the contention in this paper is that health insurance preference is a major determinant of the enrollment decision. The general set up of the decision process is described as follows.

An adult respondent in the MEPS indexed by n faces a choice among m health insurance enrollment alternatives, each providing a given level of utility. The latent utility derived from the choice of alternative j is L_{nj}, for j =1,…,m , and is only known to the individual respondent. The utility is decomposed as $L_{nj} = V_{nj} + \varepsilon_{nj}$, where ε_{nj} captures unobserved factors affecting utility, and is not included in the observed part V_{nj} of utility. The individual chooses the alternative yielding the greatest utility; therefore, the behavioral model consists of choosing enrollment

alternative i if and only if $L_{ni} > L_{nj}$ for all $j \neq i$. The probability that respondent n chooses alternative i is given as:

$$P_{ni} = \text{Prob}(L_{ni} > L_{nj}\ \forall j \neq i) \quad (1)$$
$$= \text{Prob}(V_{ni} + \varepsilon_{ni} > V_{nj} + \varepsilon_{nj}\ \forall j \neq i)$$
$$= \text{Prob}(\varepsilon_{nj} - \varepsilon_{ni} < V_{ni} - V_{nj}\ \forall j \neq i)$$

$$= \int_{\varepsilon} \mathbf{I}(\varepsilon_{nj} - \varepsilon_{ni} < V_{ni} - V_{nj}\ \forall j \neq i) f(\varepsilon_n) d\varepsilon_n, \quad (2)$$

The choice probability is expressed as a cumulative distribution function of the error differences with an (m-1) dimensional density function $f(\varepsilon_n)$. The function $\mathbf{I}(\cdot)$ is the indicator function, taking a value of 1 when the expression in parentheses is true and 0 otherwise. Probit specification of this choice probability jointly models the unobserved utility components using the normal density, such that $f(\varepsilon_n)$, is replaced by the multivariate normal density $\phi(\varepsilon_n)$ with covariance matrix Ω :

$$\phi(\varepsilon_n) = \frac{1}{(2\pi)^{j/2}|\Omega|^{1/2}} e^{-\frac{1}{2}\varepsilon_n' \Omega^{-1} \varepsilon_n} \quad (3)$$

The choice probability under probit specification is then given by:

$$P_{ni} = \int_{\varepsilon} \mathbf{I}(\varepsilon_{nj} - \varepsilon_{ni} < V_{ni} - V_{nj}\ \forall j \neq i)\ \phi(\varepsilon_n) d\varepsilon_n, \quad (4)$$

Endogeneity in this probit model is motivated using the following general additive form representation of the utility function for individual n choosing among alternative i:

$$L_{ni} = f(y_{ni}, x_n, \beta_n) + \varepsilon_{ni}, \quad (5)$$

Where the systematic portion of the utility contains observed exogenous variables, x_n, relating to person n, the endogenous explanatory variable (health insurance preference), y_{ni}, and the parameter vector, β_n. The endogenous variable y_{ni} can be expressed as:

$$y_{ni} = g(z_n, \gamma) + \mu_{ni}, \quad (6)$$

Here μ_{ni} and ε_{ni} are correlated but independent of the exogenous instruments z_n. This correlation between the errors μ_{ni} and ε_{ni} implies that the health insurance preference variable is correlated with unobserved factors affecting utility from enrolling in the various health insurance categories. This characteristic creates the statistical endogeneity of the stated health insurance preference variable, and leads to bias using standard estimation methods, which assumes that the distribution of the outcome variable conditional on the observed regressors has a zero mean. This feature is accounted for by the fully Gibbsian Bayesian Multinomial probit estimation procedure implemented in this paper, which allows for correlate-ions between unobservables.

III. Analytical Strategy

The motivation for this empirical analysis is the desire to model health insurance choices by adult respondents in the 2007 Medical Expenditure Panel (MEP) Survey. In early rounds of this survey, respondents state their preferences for health insurance by expressing its worthiness to them. Individuals either agree that health insurance is not worth the cost (NW), or disagree (W), or are uncertain (UC). Then, after the last round, we observe the coverage choice made by the respondent over the scope of the panel as either Any Private, Public Only, or Uninsured, conditional on the stated preference for health insurance.

The basic research goal then is to be able to say, for a set of covariates, how the health insurance outcome probabilities vary based on differing attitudes toward health insurance cost worthiness (health insurance preferences).

In order to address this research question, two interdependent processes are modeled. The first

process relates to the stated insurance preference, and the second process relates to the observed insurance outcomes conditional on the preferences. Because the categories in both preference and outcome variables are unordered, the choice of labeling is arbitrary and can be indexed with 0, 1 and 2 respectively, with 0 being the base category. These base categories are "uncertain" for the preferences and "uninsured" for the outcomes. Therefore, for each individual n, with $n = 1,2,\dots,N$, we can define Y_n to be the ordered pair of insurance preference and outcome.

The probit framework is used to model both insurance preference and choice outcome, allowing the errors to be correlated. The model assumes each decision maker constructs latent utilities for each of the choice options, and chooses the option corresponding to the maximum of the utilities. To make things more explicit, in setting up our fully Gibbsian Bayesian Multinomial Probit framework, we assume the existence of an 8-dimensional vector L_n that contains the latent utilities associated with insurance preferences and choice outcomes relative to the respective base categories. L_n can be thought of as being blocked into four groups of two, such that $\mathrm{L}_n = (L_n^{p\prime};\ L_n^{0\prime}; L_n^{1\prime}; L_n^{2\prime})$. The first block $L_n^{p\prime}$ contains utilities for the health insurance preferences/selection process relative to the base category (uncertain).

The first element of this block represents the utility associated with choosing "Agree" over choosing "Uncertain", while the second element in this block represents the utility associated with choosing "Disagree" over choosing "Uncertain". The remaining blocks relate to the outcomes conditional on the preferences 0, 1 and 2 respectively, relative to the base category (Uninsured).

Given any preference choice (0-Uncertain, 1-Agree, 2-Disagree), with 0, 1 and 2 indexing each of the remaining blocks, each block contains two relative utilities. The first one being the utility associated with choosing "Some Private" over being "Uninsured" and the second one representing the utility associated with choosing "Any Public" over being "Uninsured" If the first two elements of any block in L_n are both negative, the agent will prefer the base category. Otherwise, the individual will prefer the category that corresponds to the larger of the first two elements in that particular block. More formally, the link between L_n and $Y_n = (Y_{n1}, Y_{n2})'$

$$Y_{n1} = \begin{cases} \mathrm{argmax}_{\mathrm{k}\epsilon\{1,2\}} L_{\mathrm{k}}^{P} & \text{if } \max_{\mathrm{k}\epsilon\{1,2\}} L_{\mathrm{k}}^{P} > 0 \\ 0 & \text{otherwise} \end{cases}$$

$$Y_{n2} = \begin{cases} \mathrm{argmax}_{\mathrm{k}\epsilon\{1,2\}} L_{\mathrm{k}}^{Y_{n1}} & \text{if } \max_{\mathrm{k}\epsilon\{1,2\}} L_{\mathrm{k}}^{Y_{n1}} > 0 \\ 0 & \text{otherwise} \end{cases}$$

L_n is assumed to be linear on observed covariates up to an additive normal disturbance:

$$L_n = X_n\beta + \varepsilon_n \qquad n = 1,\dots N \tag{7}$$

With X_n representing a matrix of covariates, β is a vector of regression parameters, and ε represents the vector of disturbances assumed to be iid distributed with mean zero and covariance matrix Σ. The complete data likelihood obtained if the latent utilities are observed is

$$p(L|\beta,\Sigma) \propto |\Sigma|^{-\frac{\mathrm{N}}{2}} \exp\{-\tfrac{1}{2}\textstyle\sum_{\mathrm{n}=1}^{\mathrm{N}} (L_n - X_n\beta)'\Sigma^{-1}(L_n - X_n\beta)\} \tag{8}$$

Since the latent utilities L_n are not observed, we have the incomplete data likelihood obtained by forming expectations over all L_n, with the integrals defined over the region implied by Y_n

$$\Pr(\mathrm{Y}|\beta,\Sigma) \propto |\Sigma|^{-\frac{\mathrm{N}}{2}} \prod_{\mathrm{n}=1}^{\mathrm{N}} \int_{Y_n} \exp\{-\tfrac{1}{2}\textstyle\sum_{\mathrm{n}=1}^{\mathrm{N}} (L_n - X_n\beta)'\Sigma^{-1}(L_n - X_n\beta)\}\, dL_n \tag{9}$$

For notational convenience, the parameters in the model are defined as $\theta = (\beta, \Sigma)$. Assuming further X_n to be block-diagonal, then the model in matrix form can be represented as:

$$L_n = \begin{bmatrix} I_2 \otimes z_n' & 0 \\ 0 & I_6 \otimes x_n' \end{bmatrix} \beta + \varepsilon_n = X_n \beta + \varepsilon_n \qquad (10)$$

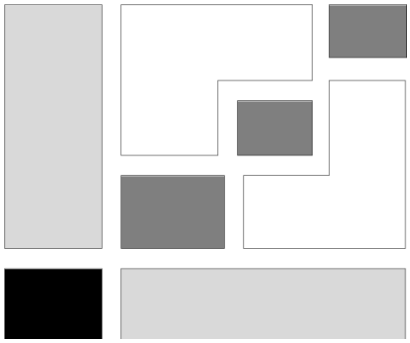
Where I_j is the $j \times j$ identity matrix and $\otimes$ indicates the kronecker product. z_n is a vector of exogenous covariates relating to the selection process (stated preferences), and x_n relates to the outcome process (revealed choices). In stacked form, equation (7) can be expressed as $L = X\beta + \varepsilon$, where L and ε are $8N \times 1$ and X is $8N \times P$, while β is $p \times 1$. In this format, ε is distributed normally with a zero mean and covariance $I_N \otimes \Sigma$.

Because the scale of the MNP is undefined, it is customary to set the first diagonal element of the covariance matrix Σ to unity in order to achieve identification (Train, 2009, p.100-103). In the presence of endogeneity, this identification issue is complicated further, requiring additional diagonal elements to be fixed at unity. In the 3×3 switching model developed here, four choice models are effectively merged so that Σ is 8×8 and the odd-numbered diagonal elements fixed to one to ensure identification. This gives the following structure for Σ:

$$\Sigma = \begin{bmatrix} 1 & \sigma_{12} & \sigma_{13} & \sigma_{14} & \sigma_{15} & \sigma_{16} & \sigma_{17} & \sigma_{18} \\ . & \sigma_{22} & \sigma_{23} & \sigma_{24} & \sigma_{25} & \sigma_{26} & \sigma_{27} & \sigma_{28} \\ . & . & 1 & \sigma_{34} & \sigma_{35} & \sigma_{36} & \sigma_{37} & \sigma_{18} \\ . & . & . & \sigma_{44} & \sigma_{45} & \sigma_{46} & \sigma_{47} & \sigma_{48} \\ . & . & . & . & 1 & \sigma_{56} & \sigma_{57} & \sigma_{58} \\ . & . & . & . & . & \sigma_{66} & \sigma_{67} & \sigma_{68} \\ . & . & . & . & . & . & 1 & \sigma_{78} \\ . & . & . & . & . & . & . & \sigma_{88} \end{bmatrix} \qquad (11)$$

As illustrated in Fig. 1, which shows the functional partition of the variance covariance matrix Σ, the covariance structure of the selection (stated preference) phase is the darkest square. The covariance structures associated with an outcome choice, conditional on a stated preference, are represented by the medium gray squares. The light gray rectangles show correlation between selection and outcome equations, and are similar to the selection parameters in a standard Heckman selection model (Heckman, 1979).

Fig. 1. Functional Partition of the Covariance Matrix $\sum$



Source: Author.

IV. The MCMC Sampler for Model Parameters

Application of Bayesian methods to the probit model was first introduced by Albert and Chib (1993), and further described by McCulloch et al. (2000). Endogeneity in the context of probit modeling has also received much attention in the literature, with Chib and Hamilton (2000) describing a model with multinomial probit selection and a binary outcome. Li and Tobias (2005) considered a binary selection model with an unordered probit response, Munkin and Trivedi (2008) analyzed an ordered outcome with discrete endogenous covariates, and Burgette and Nordheim (2009) looked at a model where both selection and outcome categories are unordered. The modeling strategy used in this analysis relates closely to the latter, which is an extension of Imai and van Dyk (2005).

To circumvent the problems associated with the lack of a closed form solution for the multinomial probit model, data augmentation techniques as described by Albert and Chib (1993) are coupled with MCMC methods. This is accomplished by expanding the parameter space with latent variables, which in a Bayesian context yields a full Gibbs sampler prior specified in the identified model parameters. Our analysis uses the full Gibbs sampler developed for the case with three selection categories representing the stated preferences for health insurance, and three outcome categories representing the revealed health insurance choices following (Burgette & Nordheim, 2009). For more details on prior and posterior

distributions, identification of the variance covariance matrix Σ, and the steps followed by the sampler, refer to their article.

V. Data and Variable Description

The empirical analysis is based upon data from the 2007 Medical Expenditure Panel Survey (MEPS) full year population characteristics data. The survey is sponsored by the Agency for Health Care Research and Quality (AHRQ), and designed to overlap two calendar years with a new panel of sample households selected each year. The household component of the MEPS collects data from a subsample of the National Health Interview Survey and uses stratified and clustered random sampling with weights that produce nationally representative estimates for a wide range of health-related demographic and socioeconomic characteristics for the civilian, non-institutionalized U.S. population. The data from the calendar year 2007 was collected in rounds 1, 2, and 3 for MEPS panel 12 and rounds 3, 4, and 5 for MEPS panel 11. The survey includes questions on respondents' attitudes toward health insurance and health insurance cost from a self-administered questionnaire (SAQ) which was administrated in round 2 for panel 12 and round 4 for panel 11.

Table 1. Summary Statistics for the Independent Variables in the Model

	N = 18035	**Mean**	**SD**
Demographic Characteristics			
AGE	Age of respondent in years	46.160	17.445
SEX	= 1 if respondent is female	0.542	0.498
MARRIED	= 1 if Currently married	0.562	0.496
COLLEGE	= 1 if at least one year of college	0.444	0.497
INCOME	Individual's income in 1000	29.998	31.471
FAMINC	Family's income in 1000	59.942	52.721
FAMSIZ	Number of family members	3.045	1.664
Health Characteristics			
VERGOOD	= 1 if very good health	0.334	0.472
GOOD	= 1 if good health	0.326	0.469
FAIRPOOR	= 1 if fair or poor health	0.165	0.371
Regional Dummies			
MIDWEST	= 1 if respondent is from the Midwest	0.209	0.407
NORTHEAST	= 1 if respondent is from the Northeast	0.150	0.357
WEST	= 1 if respondent is from the West	0.257	0.437
Variance Estimation Variables			
VARSTR	Variance estimation stratum	534.3	489.89
VARPSU	**Variance estimation PSU**	**1.664**	**0.627**

Source: U.S. Department of Health & Human Resources (2007).

Although the 2007 MEPS includes 30,964 individuals interviewed over the 2-year period, the target population for the SAQ only include adults (person age 18 or older) in the civilian non-institutionalized population, amounting to 19,067 respondents. After accounting for questionnaire non-response, the final sample used in this analysis is comprised of 18,035 individuals age 18 to 85 that were members of the civilian, non-institutionalized portion of the U.S. population in 2007. For more information on the MEPS sampling design, see Ezzati-Rice et al. (2008).

The dependent variable in this study is a factor with three mutually exclusive and exhaustive categories representing the health insurance coverage indicator "INSURANCE". It is constructed from INSCOV07 provided in the MEPS dataset, which has 3 levels (1-Some Private, 2-Public Only, 3-Uninsured). Because we wish to use "Uninsured" as the base category in the estimation, the INSURANCE variable is constructed as a factor with three levels (0 -

Uninsured, 1 - Some Private, 2 - Public Only). Of main interest is the role played by health insurance preference, "ATTHICW", in this choice process. The variable "ATTHICW", is constructed from the variable ADINSB42 provided in the MEPS dataset which is a factor with 5 levels (1. Disagree Strongly, 2. Disagree Somewhat, 3. Uncertain, 4. Agree Somewhat, 5. Agree Strongly) relating to the statement, "Health insurance is not worth the cost." The variable is recoded into ATTHICW as a factor of 3 levels (0-Uncertain, 1- Agree, 2-Disagree) by combining the first two and last two categories of ADINSB42. This new variable is interpreted as (0-Uncertain, 1-Not Worthy, 2-Worthy) and represents the stated attitude towards health insurance cost. Since a respondent could interpret Uncertain as something other than indifference, we can consider the choice options to be unordered. The remaining covariates include demographic characteristics such as age, sex, education, income, marital status, health characteristics, and regional dummies. Definitions and summary statistics for the covariates are given in Table 1.

VI. Results

The selection (health insurance preference) and the observed outcome (health insurance coverage) are guided by two separate but interrelated processes. In fact, it is assumed that personal income (INCOME) influences individuals' attitudes toward health insurance (health insurance preference), while family income (FAMINC) influences the likelihood of falling in a given coverage category (health insurance outcome). As such, FAMINC is used here as a genuine exclusion restriction to ensure more robust identification of the estimated parameters (Heckman, 2000). This is motivated by the fact that in expressing health insurance preference, adult respondents take into account subjective/personal information, while the actual observed coverage at the end of the year is affected by other family members and whether they have health insurance coverage that can be extended to the respondent.

The **R** package **endogMNP** is used to estimate the parameters of the model. Three Markov chains of length 22000 iterations were run, with the over dispersed default starting values, a burn-in period of 2000 iterations and a thinning interval of 5 iterations. To assess convergence of the chains, the coda package in R (Plummer et al., 2006) is used to compute the Gelman-Rubin convergence diagnostic (Gelman & Rubin, 1992). For the results presented, the Gelman statistics had values below 1.2 for all 138 estimated parameters, indicating acceptable convergence of the chains.

Table 2 shows the means and variances of the marginal posterior distribution of the coefficients corresponding to the selection process. Looking at the coefficients for SEX, we see that females are less likely than males to express "Not-Worthy" compared to "Uncertain" as their preference for health insurance (- 0.0623) while more likely than males to express "Worthy" compared to "Uncertain"(0.675).

The coefficient value 0.0720 for MARRIED suggests that compared to unmarried adults, currently married individuals are more likely to express "Worthy" compared to "Uncertain" as their preference for health insurance.

In relation to education, the coefficients of COLLEGE (0.0850 and 0.1655) suggest that adults with at least one year of college experience are more decisive in the expression of their health insurance preference (Worthy or Not Worthy), compared to those with no college experience, whom tend to be less decisive (Uncertain). The coefficients values (0.0034 and 0.0049) for INCOME suggest that an increase in personal income increases respondents' decisiveness in the expression of their health insurance preference (Not Worthy or Worthy over Uncertain).

The negative coefficients of the health characteristics dummy variables suggest that adults with EXCELLENT health conditions are more likely to find health insurance "Not Worthy" compared to adults with relatively less ideal health conditions (VERGOOD, GOOD, FAIRPOOR). This suggests that individuals with excellent health conditions do not

find a need for health insurance as much as those with very good, good, or fair and poor health conditions. Finally, the coefficients on the regional dummy variables suggest that relative to southerners, adults from the MIDWEST are less likely to express "Not Worthy" compared to "Uncertain" as their health insurance preference (- 0.0894) while those from the WEST are less likely to express "Worthy" compared to "Uncertain" (- 0.0695).

Tables 3 and 4 provide coefficient estimates related to the outcome conditional on the preference categories. Table 3 summarizes estimates for "Public" coverage, while Table 4 presents estimates for "Private" coverage. If adult respondents express health insurance preferences based on the utility derived from such preferences, then we should worry about self-selection bias if we wish to predict health insurance coverage across all preferences for a given adult.

The results will be consistent with the presence of self-selection bias in the following sense. If modeling the distribution of a given coverage category is conditional on each of the preference categories and a set of covariates that provide different estimates of the intercept, then the coverage outcome of interest is partly determined by the type of health insurance preference the respondent chooses to express. This dependence of the coverage outcome on the choice of preference by the adult respondent creates the self-selection bias when we wish to predict health insurance coverage across all preferences for a given adult.

Table 2. Posterior Means and Variances for the β Parameters Related to the Insurance Preference or Selection Process

	Not Worthy (Atthincw =2)	**Worthy (Atthincw =3)**
CONST	0.1906**	0.2018**
	(0.0584) †	(0.0540)
AGE	0.0005	0.0076**
	(0.0008)	(0.0006)
SEX	-0.0623**	0.0675**
	(0.0259)	(0.0227)
MARRIED	0.1035	0.0720**
	(0.0284)	(0.0251)
COLLEGE	0.0850**	0.1655**
	(0.0260)	(0.0204)
INCOME	0.0034**	0.0049**
	(0.0004)	(0.0004)
VERGOOD	-0.1063**	-0.0210
	(0.0373)	(0.0296)
GOOD	-0.2134**	-0.0543
	(0.0401)	(0.0313)
FAIRPOOR	-0.2562**	-0.1139**
	(0.0453)	(0.0350)
MIDWEST	-0.0894**	-0.0235
	(0.0341)	(0.0270)
NORTHEAST	-0.0187	-0.0150
	(0.0396)	(0.0317)
WEST	**-0.0987**	**-0.0695****
	(0.0296)	**(0.0239)**

Notes: 1. † standard deviation of the parameter's posterior distribution in parentheses.
2. ** Indicates that zero is excluded from the 95% credible set.
Source: U.S. Department of Health & Human Resources (2007).

Looking at the intercept estimates in Table 3, adults with weak preferences (Uncertain and Not Worthy) are less likely to be publicly covered only (- 0.8652 and -0.440) compared to being uninsured, while individuals with strong preference for health insurance (Worthy) are more likely (0.3458) to have

public coverage only compared to being uninsured. These results are consistent with the existence of self-selection bias as described above. The effect of AGE on public coverage varies by health insurance preference and is significant only for individuals with an "Uncertain" preference. The coefficient value of (0.0062) suggests that an increase in age leads to an increased likelihood of coverage through public insurance only over being uninsured for individuals with "uncertain" health insurance preference. Also, females with a "Not Worthy" preference are more likely (0.0708) than their male counterparts to have public coverage only compared to being uninsured. In addition, currently married adults are more likely than those not currently married to be covered through public insurance only over being uninsured. This observation is true for both individuals with "Worthy" and "Not Worthy" preferences (0.3542 and 0.2145 respectively).

Table 3. Posterior Means and Variances for the β Parameters Related to Choosing Public Coverage over Being Uninsured Conditional on Each Stated Preference

	Public Uncertain (Insurance =2, Atthicw=1)	Public Not Worthy (Insurance =2, Atthicw=2)	Public Worthy (Insurance =2, Atthicw=3)
CONST	-0.8652**	-0.440**	0.3458**
	(0.1088) †	(0.1342)	(0.1166)
AGE	0.0062**	0.0032	-0.0055
	(0.0016)	(0.0017)	(0.0028)
SEX	0.1306	0.0708**	0.0389
	(0.0418)	(0.0323)	(0.0358)
MARRIED	0.0357	0.2145**	0.3542**
	(0.0540)	(0.0413)	(0.0455)
COLLEGE	0.2234**	0.2218**	0.3681**
	(0.0524)	(0.0443)	(0.0383)
FAMINC	0.039**	0.0064**	0.0130**
	(0.0010)	(0.0008)	(0.009)
FAMSIZ	-0.0681**	-0.0923**	-0.1883**
	(0.168)	(0.0130)	(0.0125)
VERGOOD	0.1250**	0.0779	0.0940**
	(0.0577)	(0.0040)	(0.0423)
GOOD	0.0501	0.0465	-0.0239
	(0.0544)	(0.0386)	(0.0390)
FAIRPOOR	0.0474	-0.1186**	-0.3162**
	(0.0639)	(0.0544)	(0.0547)
MIDWEST	0.2244**	0.2342**	0.1864**
	(0.0561)	(0.0473)	(0.0475)
NORTHEAST	0.2762**	0.2133**	0.0264
	(0.0661)	(0.0485)	(0.0769)
WEST	**0.0621**	**0.0804****	**-0.0754**
	(0.0465)	**(0.0356)**	**(0.0435)**

Notes: 1. † standard deviation of the parameter's posterior distribution in parentheses.
2. ** Indicates that zero is excluded from the 95% credible set.
Source: U.S. Department of Health & Human Resources (2007).

The effect of college education on coverage through public only is significant across all health insurance preference categories. Although this effect is almost similar for adults with weak preference (Uncertain, and Not Worthy), which are 0.2234 and 0.2218 respectively, it is relatively larger, 0.3681, for individuals with a strong preference for health insurance (Worthy). These coefficient values suggest that regardless of insurance preference, compared to adults with no college experience, those with at least one year of college experience are more likely to be publicly covered only over being uninsured. The positive coefficient estimates for family income (FAMINC) across all health insurance preferences

suggests that an increase in family income increases the likelihood of being only publicly insured over being uninsured. The negative coefficient estimates however, across all insurance preferences for family size (FAMSIZ), suggest that an increase in family size decreases the likelihood of coverage through public only over being uninsured. This less intuitive result may be explained by the fact that while increased family size may affect uninsured or private coverage status, depending on whether or not other family members have coverage that can be extended to the respondent, family size has no effect on public coverage status which is based solely on age and income requirement that must be met by the respondent.

Table 4. Posterior Means and Variances for the β Parameters Related to Choosing Private Coverage over Being Uninsured Conditional on All Preference Levels

	Private|Uncertain (Insurance=3|Atthicw=1)	Private|Not Worthy (Insurance=3|Atthicw=2)	Private|Worthy (Insurance=3|Atthicw=3)
CONST	-1.3010 **	-1.9300 **	1.5640 **
	(0.1795) ₸	(0.1760)	(0.1571)
AGE	0.0291 **	0.0322**	0.0216**
	(0.0024)	(0.0025)	(0.0031)
SEX	0.2760 **	0.3710 **	0.0905**
	(0.0610)	(0.0569)	(0.0537)
MARRIED	-0.2770 **	-0.4103 **	-0.3317 **
	(0.0806)	(0.0740)	(0.0334)
COLLEGE	0.2028 **	-0.1665 **	0.3444 **
	(0.0855)	(0.0613)	(0.0312)
FAMINC	0.0095 **	0.0094 **	0.0109 **
	(0.0014)	(0.0010)	(0.0006)
FAMSIZ	0.0519 **	0.1061 **	0.1090 **
	(0.0220)	(0.0183)	(0.0102)
VERGOOD	0.0035	0.2132**	-0.0072 **
	(0.1147)	(0.0754)	(0.0551)
GOOD	-0.0543	0.4077**	0.0479
	(0.1000)	(0.0948)	(0.0492)
FAIRPOOR	0.1528	0.7317 **	0.3793 **
	(0.1202)	(0.0964)	(0.0601)
MIDWEST	0.2040 **	0.3301 **	0.0139
	(0.0951)	(0.0829)	(0.0643)
NORTHEAST	0.5254 **	0.4031 **	0.3224**
	(0.094)	(0.0877)	(0.1026)
WEST	**0.2060 ****	**0.3005 ****	**0.2234**
	(0.0803)	**(0.0810)**	**(0.0617)**

Notes: 1. ₸ standard deviation of the parameter's posterior distribution in parentheses.
2. ** Indicates that zero is excluded from the 95% credible set.
Source: U.S. Department of Health & Human Resources (2007).

With respect to health characteristics relative to having an excellent health condition, adults with very good health conditions are more likely to be only publicly covered over being uninsured when their preference for health insurance is either "Uncertain" or "Worthy". On the other hand, relative to having an excellent health condition, adults with fair or poor health conditions are less likely to be only publicly covered over being uninsured, when their preference for health insurance is either "Not Worthy" or "Worthy". Looking at the regional dummy variables, the positive and significant coefficient values for MIDWEST across all preference categories suggest that relative to southerners, adults from the Midwest are more likely to choose public coverage over being uninsured irrespective of insurance preference. Similarly, relative to southerners, adults from the Northeast are more likely to choose public coverage over being uninsured; however, they only do so when

they have a weak preference for health insurance (Uncertain, or Not Worthy).

Now, in turning to the estimates for "Private" coverage conditional on all preference categories as summarized in Table 4, the interpretation is done as in Table 3. The intercept values of – 1.3010 and – 1.9300 for adults with weak health insurance preference (Uncertain and Not Worthy) suggest that individuals with such preferences are less likely to have any private coverage relative to being uninsured. On the other hand, the intercept value of (1.5640) for individuals with strong preference (Worthy) suggest that adults with such preferences are more likely to have some private coverage relative to being uninsured.

The effect of AGE on private coverage is positive and significant across all health insurance preference categories. This suggests that an increase in age increases the probability of having some private coverage over being uninsured, irrespective of health insurance preference. The positive and significant coefficient values for SEX across all insurance preference categories suggests that females are more likely than males to have some private coverage over being uninsured, regardless of health insurance preference. On the other hand, the negative coefficients values for MARRIED across all preference categories suggest that currently married individuals are less likely than their unmarried counterparts to have some private coverage compared to being uninsured.

Table 5. Posterior Means, Standard Deviation and 95 Percent Credible Intervals for the Diagonal Elements of the Covariance Matrix

	Estimate	**L-95 Percent CI**	**U-95 Percent CI**
σ_{nw}	1.2735 (0.0330) ↟	1.2036	1.3430
σ_{n}	0.7265 (0.0330)	0.6566	0.7960
$\sigma_{pu\|\mathbf{u}}$	0.5017 (0.0901)	0.3793	0.8000
$\sigma_{pr\|\mathbf{u}}$	1.4983 (0.0901)	1.1997	1.6210
$\sigma_{pu\|\mathbf{nw}}$	0.5028 (0.1061)	0.3450	0.7880
$\sigma_{pr\|\mathbf{nw}}$	1.4973 (0.1061)	1.2120	1.6550
$\sigma_{pu\|\mathbf{w}}$	1.0939 (0.1107)	0.7670	1.2330
$\boldsymbol{\sigma_{pr\|\mathbf{u}}}$	**0.9062 (0.1107)**	**0.7671**	**1.2330**

Note: ↟ standard deviation of the parameter's posterior distribution in parentheses.
Source: U.S. Department of Health & Human Resources (2007).

The direction of the effect of COLLEGE on private coverage varies across insurance preferences. Adults with at least one year of college experience are less likely than those with none to have some private coverage relative to being uninsured when their preference for health insurance is "Not Worthy", but are more likely when their health insurance preference is "Uninsured" or "Worthy". An increase in family income (FAMINC) increases the likelihood of having some private coverage over being uninsured, irrespective of health insurance preference. This effect is relatively stronger, however, for individuals with the "Worthy" preference. Similarly, an increase in family size (FAMSIZ) increases the likelihood of private coverage over being uninsured, across all insurance preference categories.

Looking at coefficient estimates for the health characteristics variables, we can say that relative to having an EXCELLENT health condition, adults with GOOD or VERY-GOOD health conditions are more likely to have some private coverage, but only when their preference for health insurance is "Not Worthy".

However, individuals with FAIR or POOR health conditions, relative to adults with an EXCELLENT health condition, are more likely to have some private coverage when they are more decisive in the expression of their health insurance preference (Worthy or Not Worthy).

The coefficient estimates on the regional dummy variables suggest that relative to southerners, irrespective of health insurance preference, adults from the NORTHEAST and WEST are more likely to have some private coverage over being uninsured. However, for adult respondents from the MIDWEST, this is only true when they have a weak preference for health insurance (Uninsured or Not Worthy).

Although all identifiable elements of the variance covariance matrix are estimated, Table 5 only summarizes the diagonal elements which correspond to the variances. All the estimated variance coefficients have related 95 percent posterior intervals not containing zero, suggesting their significance at the 5 percent level. Estimation of the variance covariance matrix, although not of primary interest, allows the standard error of the estimated coefficients on the covariates to reflect the correct variability, which also includes variability associated with the selection process.

VII. Conclusion

The motivation for this empirical analysis was the desire to model health insurance choices by adult respondents in the 2007 Medical Expenditure Panel (MEP) Survey. In early rounds of the survey respondents stated their preferences for health insurance by expressing how much the cost was worth it. Individuals either agreed that health insurance was not worth the cost (NW), or disagreed (W), or were uncertain (UC). Then, after the last round, the coverage choice made by the respondent over the scope of the panel as either "Any Private", "Public Only", or "Uninsured" was observed. Using a framework in which stated consumption preferences for Health Insurance are assumed to be endogenous in the statistical sense, the paper modeled a set of covariates on how the health insurance outcome probabilities varied based on differing attitudes toward health insurance (health insurance preferences). Although the contention in this paper was that health insurance preference is a major determinant of the enrollment decision, we also accounted for the effects of demographic characteristics (Age, Sex, Marital status, Education level), individuals' needs and general health conditions captured by the dummy variables (Excellent, Vergood, Good, and Fairpoor) and enabling factors (Family and personal income).

Estimation of the preference equation showed that females are less likely than males to find health insurance costs to not be worth it compared to being "Uncertain", while more likely than males to find it "Worthy" compared to "Uncertain". Also, compared to unmarried adults, currently married individuals were more likely to express "Worthy" compared to "Uncertain" as their preference for health insurance. In addition, adults with at least one year of college experience were more decisive in their expression of health insurance preferences (Worthy or Not Worthy) compared to those with no college experience, who tended to be less decisive (Uncertain). Furthermore, an increase in personal income increased respondents' decisiveness in the expression of their health insurance preference (Not Worthy or Worthy) over Uncertain. The negative coefficients for the health characteristic dummy variables suggested that individuals with excellent health conditions do not find a need for health insurance as much as do those with relatively fairer (very good, good, or fair and poor) health conditions. Finally, the coefficients on the regional dummy variables suggested that relative to southerners, adults from the Midwest were less likely to express "Not Worthy" compared to "Uncertain" as their health insurance preference, while those from the West were less likely to express "Worthy" compared to "Uncertain".

Estimation of the conditional outcome equation validated the existence of self-selection bias as

coverage outcomes were found to depend on the health insurance consumption preferences initially expressed by individual respondents. This was observed through the intercept estimates showing that adults with weak preferences (Uncertain and Not Worthy) were relatively less likely to have public coverage only compared to being uninsured, while individuals with strong preference for health insurance (Worthy) were relatively more likely to have public coverage only compared to being uninsured.

Overall, the analysis extended the past literature on the topic by going beyond employer-sponsored health insurance coverage choice modeling and by capturing the endogeneity of health insurance preferences in the revealed coverage outcome process while providing results that are consistent with the existing literature. In fact, a key finding in the literature is that individuals with weak preferences for health insurance (Uncertain or Not Worthy) are less likely to be insured compared to being uninsured, while individuals with strong preferences (Worthy) are more likely to be insured compared to being uninsured (Monheit and Vistnes, 2008). The implemented modeling framework produced similar findings, in addition to providing a more accurate measure of the effects of the covariates by accounting for self-selection bias.

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Challenges and Prospects in Investing in the Indonesian Stock Market: A Focus on the Consumer Goods Sector

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ABSTRACT

Indonesia was one of the fastest growing ASEAN countries as well as the world. The outlook was driven by strong economic fundamentals including high GDP growth, a rising middle class, and increasing urbanization. The Indonesian Stock Market served as a major entry point for foreign investors. The Jakarta Composite Index (JCI), the primary measure of Indonesia's stock market performance, showed high growth historically and a positive outlook moving forward. This study aimed to evaluate the challenges and opportunities in Indonesia's stock market, specifically for foreign investors whose main purpose was value investing. It focused on the Consumer Goods Sector, as it is the most attractive sector in the market. Top-down and fundamental analyses were conducted to assess the market and identify investment entry points. Upon analysis, it was concluded that the sector would grow and this growth would be driven by increasing household spending, positive CCI, increasing disposable income, and changing consumer lifestyles. Food, beverage and pharmaceutical sub-sectors showed the highest growth potential while the top picks in terms of investment entry points were INDF, ICBP and KLBF. Though the sector remained attractive, foreign investors should be wary as investing across borders entails challenges including transaction costs, currency risk, country risk and legal risk.

Keywords: Indonesia, Jakarta Composite Index, consumer goods, top-down analysis, fundamental analysis
JEL Classifications: G11, G12, G17

I. Introduction

With a population of 256 million individuals as of 2015, Indonesia was considered as the fourth most populous country in the world. In addition, with the good prospects ahead of the country, it was also considered one of the fastest growing economies globally. According to the McKinsey Global Institute, the country has the potential to be the seventh largest economy in the world by 2030. This forecast was basically driven by strong economic fundamentals including high GDP growth, averaging 5% to 6% since 2000, as well as the country's extensive natural resources, such as crude oil, natural gas, tin, copper and gold, which fueled the export growth of Indonesia. Moreover, the promising outlook for the country was also driven by domestic consumption and the growing services sector. Specifically, some of the local and international trends that propelled the performance of the country were the continually rising middle class, urbanization, growing working-age population and

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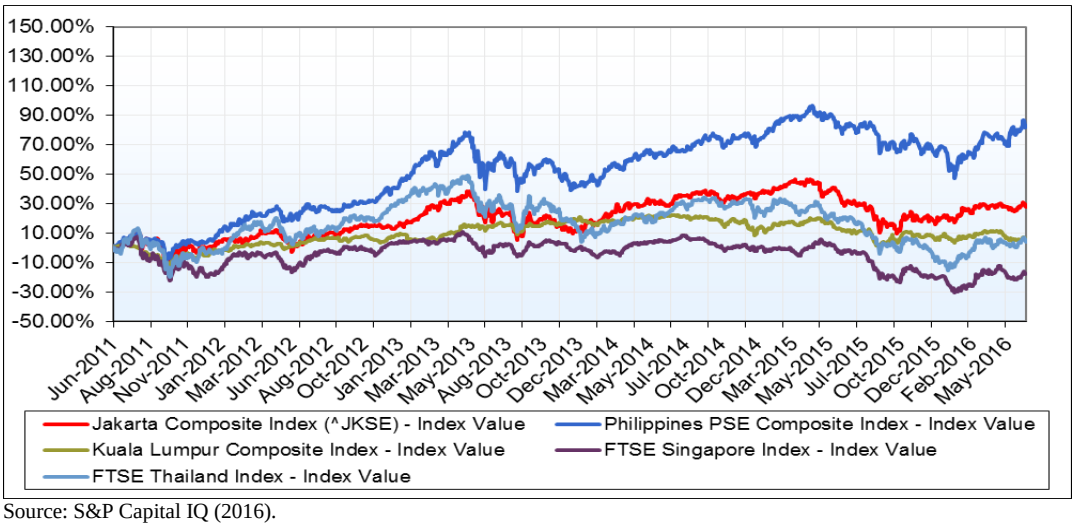
emerging digital technology. One of the leading indicators of the prospects for Indonesia was the performance of its financial market. The Jakarta Composite Index (JCI) served as the primary measure of Indonesia's stock market performance. Comparing JCI with other stock market indices in Southeast Asia as presented in Fig. 1, it can be seen that Indonesia was the second highest performing market in the region, next to the Philippines. From 2011-2016, the JCI recorded relatively stable returns with an average of 20.52% (S&P Capital IQ, 2016).

Fig. 1. Stock Market Index Performance of Top Southeast Asian Countries



Source: S&P Capital IQ (2016).

The Jakarta Composite Index was primarily comprised of more than 500 equity shares which were further divided into nine sectoral indices, namely, (1) Agriculture, (2) Mining, (3) Basic Industry and Chemicals, (4) Miscellaneous Industry, (5) Consumer Goods Industry, (6), Property and Real Estate, (7) Infrastructure, Utilities and Transportation, (8) Finance, and (9) Trade, Services and Investments (Indonesia Investments, 2016). At the end of 2015, total capitalization of Indonesia's stock market totaled around USD 353 billion while trading value was estimated to be around USD107 billion (Indonesia Stock Exchange, 2015). Given the outlook for the country as well as the historical performance of the financial market, Indonesia had been seen as one of the most promising markets in the Southeast Asian region. Several studies have been conducted already as to the analysis of the performance of the Indonesian Stock Market. However, it would be inevitable to further analyze the market given the differences among investors as well as due to continually a changing and dynamic environment. Thus, it was very important to look into the prospects and challenges in investing in the Indonesian stock market, specifically from the perspective of foreign investors whose main purpose was value investing for long term capital appreciation.

II. Objectives of the Study

This study focused on the Consumer Goods Sector as it remained one of the most important and biggest sectors in Indonesia in terms of trading value and market capitalization. It aimed to analyze the performance of the sector, identify key trends as well supply and demand drivers, evaluate opportunities and barriers in investing in the sector, specifically for foreign investors, and recommend investment entry points in the industry.

III. Methodology

A top-down approach was utilized in order to assess the performance of Indonesia's Consumer Goods Sector. The study started by assessing the macro economy of Indonesia followed by an evaluation of the trends, opportunities and problems faced by the Consumer Goods Sector. Historical returns of the sector were assessed and benchmarked against the country's stock market indices, such as the Jakarta Composite Index, LQ45 and other sectoral indices. After assessing the factors affecting the performance of the sector, the study looked into the future direction of the industry as to what specific sub-sectors will outperform the others in terms of forecasted performance.

Lastly, since the research focused on long term value investing, it employed a fundamental analysis as the main tool for narrowing down specific stocks in the sector. As of 2016, there were a total of 36 stocks under the Consumer Goods Sector. These 36 stocks were filtered using a set of criteria presented in Table 1, which included market capitalization, liquidity, and financial ratios. The study focused on mid to large cap stocks as it was intended for long term value investing. The research also examined the financial condition of selected stocks against their peers and overall industry. Lastly, discounted cash flow valuation was conducted in order to assess which stocks would have the most significant upside potential by comparing the current market price against the stock's intrinsic value. If the intrinsic value was higher than the current market price, the stock was undervalued, and thus would be recommended for investment. Otherwise, the stock was overvalued, and thus would be dropped from the screening process.

Table 1. Stock Selection Metrics for the Consumer Goods Sector

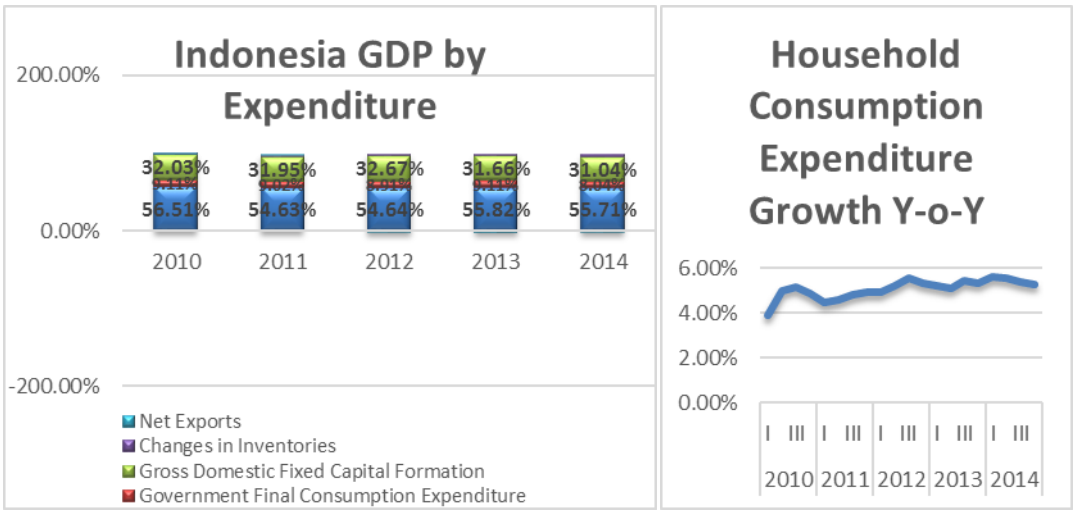
Metric	Benchmark
Market capitalization	Mid to large capitalization stocks
Liquidity	12-month average daily traded value
Performance Ratios	
Profitability ratios	Higher than industry median
Price and value ratios	Lower than the industry median
Intrinsic value	Higher than the current market price

IV. Results and Discussion

4.1. The Indonesian Consumer Goods Sector

The Consumer Goods sector was one of the most important contributors to the continuously growing economy of Indonesia. Over the past five years, private consumption accounted for an average of 56% of Indonesia's gross domestic product (GDP), growing at average year-on-year (YoY) growth rate of 5.09% (Statistics Indonesia, 2016). This, driven by household consumption, was also considered a safety net of the economy, especially whenever exports fell due to global economic uncertainties.

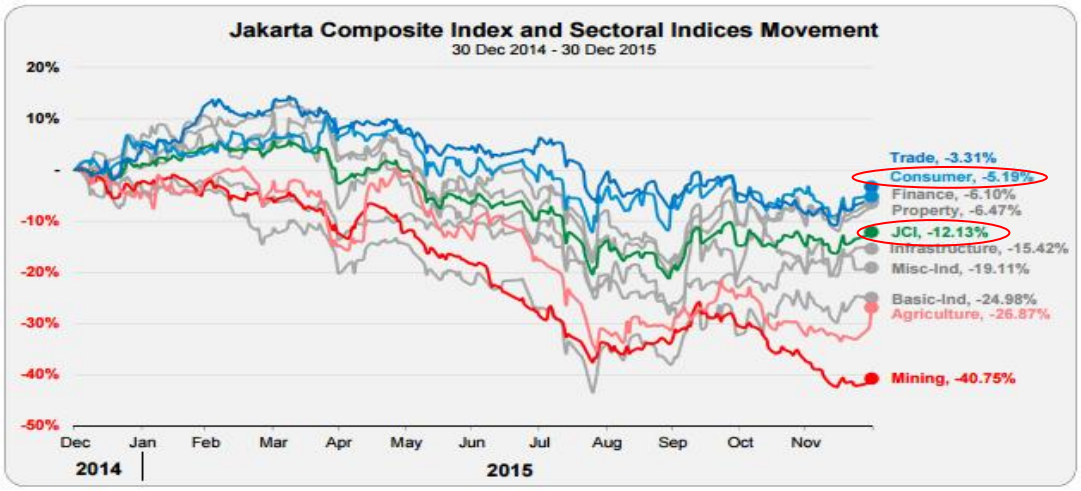
Fig. 2. Indonesia GDP by Expenditure and Growth in Household Consumption



Source: Statistics Indonesia (2015).

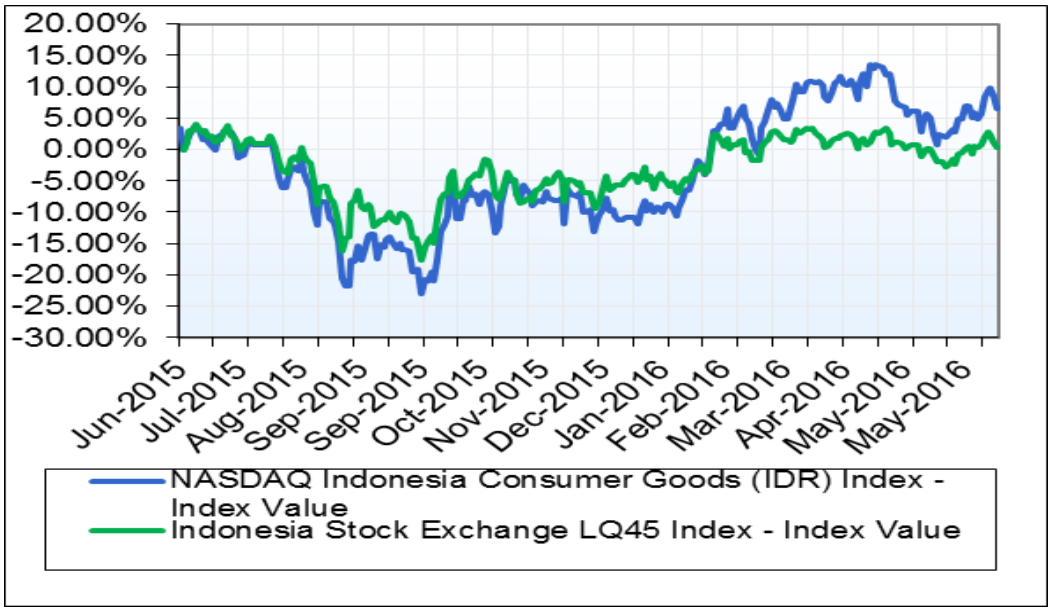
Moreover, the consumer goods sector was also considered one of the most attractive sectors in the Jakarta Stock Exchange as evidenced by its performance for the past year. From December 2014 to December 2015, The Consumer Goods sector recorded the second least negative return of -5.19% next to Trade, Services and Investment sector, which recorded a return of -3.31%. This return was better as compared to the JCI return of -12.13% in the same period. Moreover, the sector continually performed better than the LQ45 index, which is composed of the top 45 stocks in the Jakarta Stock Exchange. The sector recorded the highest return at 13.62% from June 2015 to June 2016, while the LQ45 recorded a highest return of 3.94% during the same period (Indonesia Stock Exchange, 2016).

Fig. 3. JCI and Sectoral Indices Performance



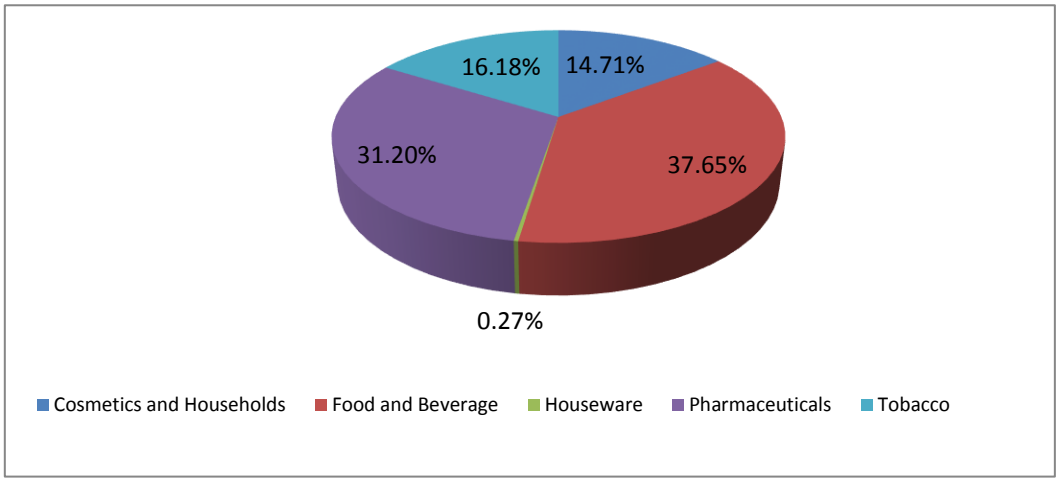
Source: Indonesia Stock Exchange (2016).

Fig. 4. Consumer Goods Index versus LQ45



Source: S&P Capital IQ (2016).

Fig. 5. Trading Value Composition of the Indonesia Consumer Goods Subsector, 2014

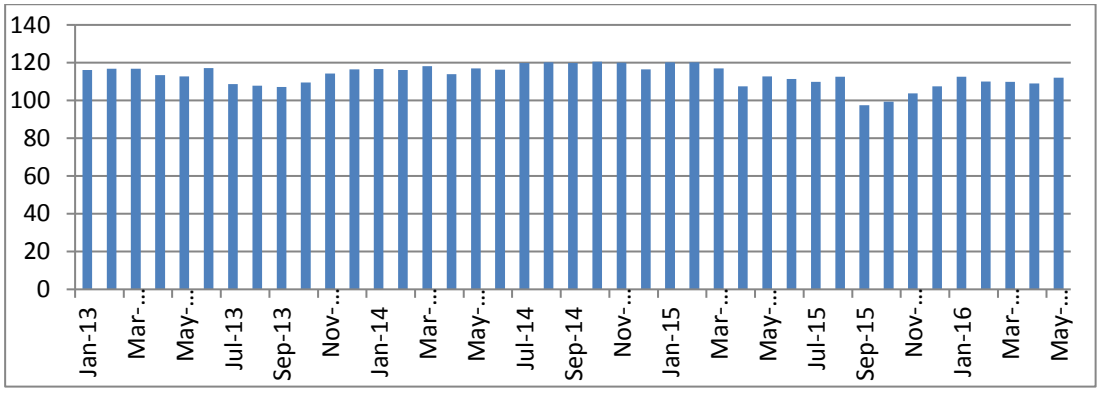


The Consumer Goods Index was comprised of 36 companies which were further sub-divided into five sub-sectors, namely: (1) Food and Beverage, (2) Tobacco, (3) Pharmaceuticals, (4) Cosmetics and Household Products, and (5) Household Appliances. In 2014, a majority of the sector's total trading value is led by two subsectors, namely, Food and Beverage and Pharmaceuticals. The Food and Beverage subsector generated the highest trading value among the other subsectors under consumer goods with 37.65% of the total value of the sector. Meanwhile, Pharmaceuticals generated 31.20% of the sector's total value.

4.2. Supply and Demand Drivers

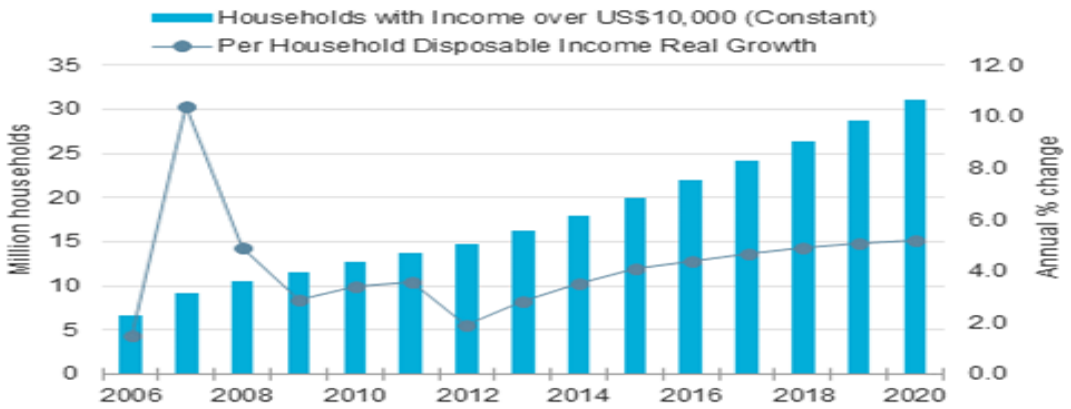
The good prospects for the Consumer Goods sector were mostly driven by different macroeconomic factors, such as an improved consumer confidence index and increasing disposable income which further drove consumer spending. The Consumer Confidence Index (CCI), which drove the level of optimism among consumers, had been consistently high in Indonesia for the few past years. Indonesian CCI occupied the top position among the top 60 countries surveyed by the Global Consumer Confidence Report for five consecutive quarters from Q1 2013 to Q1 2014. For Q4 2014, Indonesia recorded a consumer confidence index of 120, the second most optimistic in the world next to India at 129. In 2015, there had been a decline in CCI due to sluggish economic growth not only in Indonesia but in other countries in the region. However, this decline picked up in the first half of 2016, bringing CCI closer to its original level. The Central Bank of Indonesia remained positive that household spending would still grow as recorded CCI is still greater than 100. This means consumers were still optimistic about the future conditions of the economy. As a result, a higher percentage of their disposable income would be allotted for consumption rather than saving. In fact, from January to May 2016, an average of 69% of disposable income was spent while around 19% was saved.

Fig. 6. Indonesia's Consumer Confidence Index (2013-2016)



Source: Central Bank of Indonesia (2016).

Fig. 7. Forecasted Number of Households Moving into the Middle Class Category



Another important driver of the growth in the consumer goods sector was the increasing household disposable income as evidenced by the growth in the number of households moving into the middle income category. According to Euromonitor International, the middle class was expected to increase from 56.5% of Indonesia's total population in 2010 to 68.4% in 2015 and 76.1% in 2020. This was equal to 12.4 million households in 2015 to 24.1 million households in 2019. Net income per household was forecasted to be USD7,969 in 2015 and was expected to grow to USD12,111 in 2019. Income per capita was forecasted to increase at the same rate as household income from USD3,665 in 2015 to USD5,581 in 2019. Increasing household disposable income would have a significant impact on Indonesia's consumer goods market, especially in companies engaged in specific industries such as tourism, education, healthcare and entertainment as consumers increase their spending on goods and services beyond their basic needs. Moreover, it was still expected that the bulk of Indonesia's consumer spending will be allocated to essential consumer goods such as food, non-alcoholic beverages and housing.

Furthermore, aside from macroeconomic drivers, there were also socio-demographic factors that contributed to the growth of the consumer goods sector of Indonesia. One of these would be the changes in lifestyle and consumption patterns of Indonesians supported by the increased urbanization trend in the country. It is projected that Indonesian urban population will grow by 36.6% in 2012 to 2030 and is expected to reach 150 million in 2030. As a result of urbanization, consumers are experiencing lifestyle changes. Since they spent most of their time working, they did not have much time left for cooking, and yet they were demanding healthy food products. They were increasingly consuming easy-to-eat food products, especially breads and cereals. In particular, Indonesians who lived in urban environments started to consume more cereals and breads than rice and noodles. As a matter of fact, the country ranked as the second largest wheat importer in the world. In addition, changes in lifestyles among urban consumers had a positive effect on the sales of packaged food. This opens an opportunity for the industry, especially for the processed food sector. Increasing health awareness is also evident among Indonesian consumers. As a result, the demand for healthier food and drink also increased. Indonesian consumers, especially those with high income levels, were looking for ways to improve their health, which include demanding organic products and food supplements, as well as services which address health and wellness. For this reason, several marketing campaigns of food and beverage companies included healthy motivations in order to attract more consumers. On the other hand, the alcoholic beverage sector of Indonesia remains small since 85% of the population is Muslim. In addition, the increased tariffs on alcoholic beverage imports are also expected to affect the growth of the segment. Bottled water remained the most common beverage throughout the country while coffee consumption is expected to increase, brought about by the increasing number of coffee shops as a result of a rising younger population as well as increasing income brackets.

Additionally, because of developing retail infrastructure in Indonesia as evidenced by the increasing number of hypermarkets and mini-markets, even in rural regions, the availability of consumer goods was not an issue anymore as improved logistics facilitated a more efficient and effective distribution of food products, including processed items. Lastly, local companies are expanding into exporting their products to the global market as consumers from other countries are also looking for diverse international cuisines.

4.3. Risks and Challenges

Despite the bright prospects, the sector faced a lot of challenges arising from the current macroeconomic conditions of the country as well as new regulations imposed by the government.

The combined slowing economic growth, low commodity prices, high inflation rate, and weak rupiah put pressure on purchasing power as well as on the manufacturers. The economy of Indonesia grew at a slower pace of 5% in 2014. In addition, the continuously depreciating rupiah inflated the production costs of local manufacturers, forcing Fast Moving Consumer Goods (FMCG) players to increase their prices. The increase in prices negatively affected the demand for consumer goods across all categories. Although companies realized an increase in revenue for 2014, the volume sold significantly declined resulting in a weaker performance in Q1 of 2015.

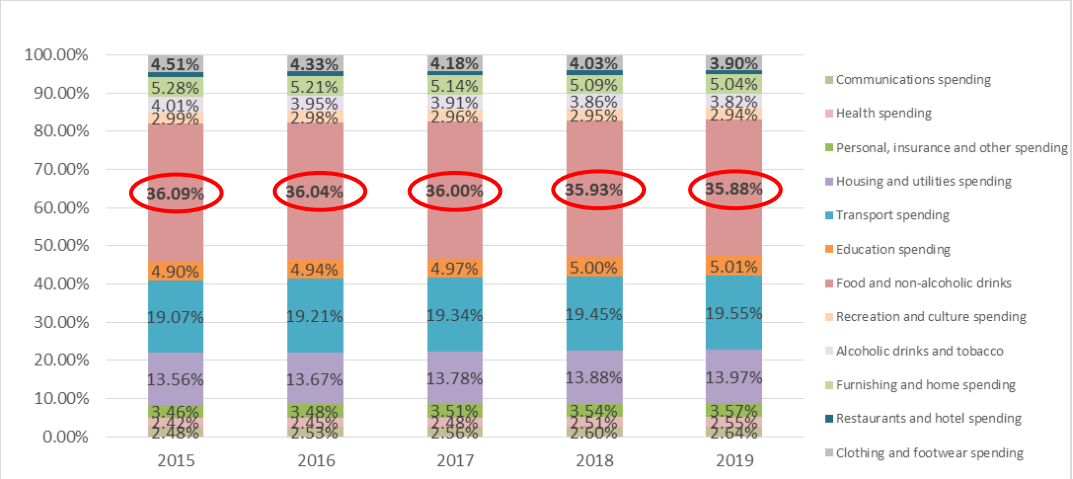
Another factor that challenged the local FMCG players was the reduction of the fuel subsidy implemented by President Joko Widodo in November 2014 with the aim of freeing up funds for development projects. The increase in fuel prices posed a challenge among local manufacturers as it translated to increased transportation costs which further increased production costs. However, FMCG cannot increase prices further as it will reduce consumer demand.

Moreover, last July 2015, the Indonesian Ministry of Finance decided to raise import tariffs for food, cars, clothes and other consumer goods. The government implemented this in order to boost the demand for domestic goods and reduce the country's dependence on imported goods. The import duty for beverages (alcohol content of at least 25%) was raised to 150%, meat was now subject to a 30% import duty from 5% and the import duty for coffee/tea was raised to 20% from 5%. In addition, import tariff for cars was set to a fixed rate of 50%, up from a range of 10-40% previously. This new regulation posed a challenge for the consumer goods sector as this will further increase inflation in the country.

4.4. Future Outlook

The opportunities and threats in the consumer goods sector will greatly impact household spending of Indonesian consumers in the coming years. According to Business Monitor International, food and beverage would hold the largest share of household spending from 2015 onwards. In 2016 alone, the category would represent around 36% of total household expenditures at USD 187.4 billion. In terms of forecasted growth rates, the food and beverage category would realize a CAGR of 9.87% to reach a total spending of USD294.1 billion by 2019.

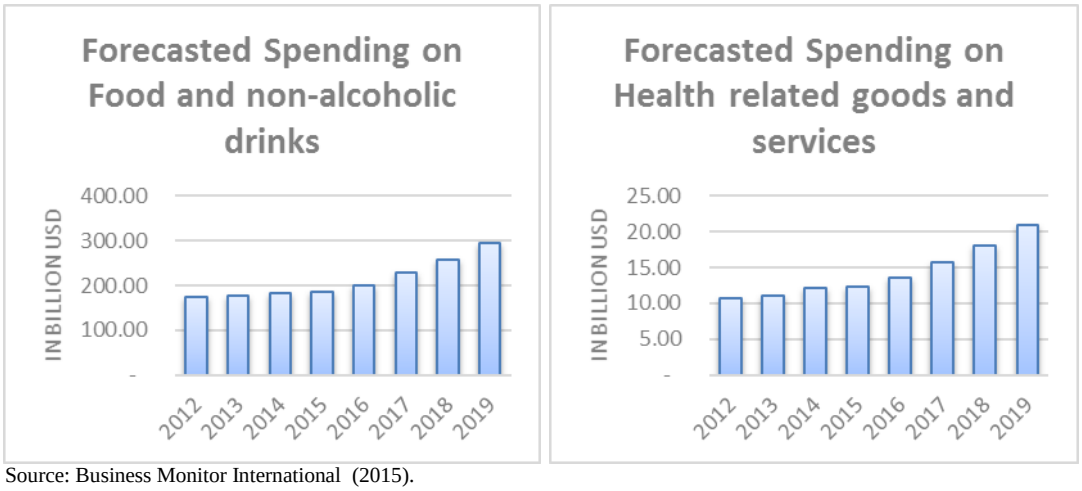
Fig. 8. Forecasted Indonesia's Household Spending by Category (2015-2019)



Source: Business Monitor International (2015).

At the other end, among the five subsectors in the Consumer Goods Industry, the pharmaceutical subsector exhibits the greatest growth potential. From an annual expenditure of USD 12.10 billion in 2014, it is forecasted to grow to USD 20.90 billion with a compounded annual growth rate of 11.55% (Business Monitor International, 2015). The increase in expenditures on health goods and medical services category is a result of health awareness among Indonesian consumers, boosting the demand for outpatient services and pharmaceutical products.

Fig. 9. Forecasted Spending on Food, Beverage and Health Related Goods and Services



Source: Business Monitor International (2015).

The food and beverage sector was worth USD72 billion in 2013 and dominated by over 6,000 large manufacturers and around 1.2 million small and medium enterprises. The leading companies in the segment included Nestle Indonesia, Unilever Indonesia, Indofood Sukses Makmur, Indofood CBP Sukses Makmur, Mayora Indah, Tiga PIlar Sejahtera Food and PT SIantar Top. Over the past seven years, food, beverage and tobacco contributed an average of 7.40% to Indonesian GDP, making it one of the greatest contributors from the non-oil and gas sector. In terms of per capita expenditure, a typical Indonesian consumer spent an average of 50% of monthly income on food and beverage and allotted the remainder into other expenses such as health, education, and utilities, among others. Lastly, around 14% of Indonesia's foreign direct investment (FDI) goes to the food and beverage sector. In terms of the competitiveness of Indonesia's food and beverage sector relative to its neighboring ASEAN counterparts, Indonesia ranked second to Thailand in terms of attractiveness for foreign direct investments. The ASEAN integration which opens up trade within serves as great opportunity for Indonesian manufacturers, especially in terms of export possibilities as well as foreign direct investments. The food and beverage sector is expected to receive a total of IDR 60 tillion (USD 4.7 billion) worth of investment in 2015. This FDI will specifically come from Japan as two Japanese candy manufacturers, namely UHA Mikakutou Co Ltd and Kanematsu Corp, already pledged a combined investment of IDR 300 billion (USD 23.3 million). Coca Cola Amil also expressed that they are planning to invest USD 800 million in the next three to four years for the expansion of their production capacity in Indonesia. Lower costs of production, particularly labor as well as high quality products, are still the most important competitive advantages of Indonesia's food and beverage sector compared to its other ASEAN neighbors. However, the food and beverage sector also

faced several challenges, including the decreasing fuel subsidies, weakening Indonesian rupiah, heavy dependence on imported raw materials, and a sluggish export market as well as higher inflation rates which decrease the purchasing power of Indonesian consumers.

At the other end, the pharmaceutical sector of Indonesia was valued at USD 5.9 billion in 2014, reflecting a per capita pharmaceutical spending of USD 26. The sector was expected to grow to USD8.8 billion by 2019 and USD 14 billion by 2024 (Business Monitor International, 2015). It was highly fragmented and comprised of 200 pharmaceutical manufacturers, of which 70% are domestic companies while the remaining 30% are multinational companies. Kalbe Farma is considered the market leader with 14% market share while the top three global drug producers, namely Pfizer, Bayer and GSK, collectively hold 8% of the market. The expected growth in the industry was attributed to the increase in government health expenditure and a solid economic base as well as growing population, rising middle class, affluent consumers and increasing health awareness among Indonesians. In addition, the growing economy of Indonesia encouraged increased foreign investments in healthcare facilities. Reforms in government policies on healthcare also boosted the performance of the sector. However, there were some factors that hampered the growth of the sector. These factors included lower health spending compared to Asian neighbors, high dependence on imported raw materials which exposed the industry to higher currency risks, a high inflation rate, weak foreign exchange and government regulations that prevent the entry of foreign companies into the local pharmaceutical industry.

4.5. Investment Entry Points

In order to identify the most attractive entry points in the Consumer Goods Sector, it will be very critical to narrow down the 36 total stocks to the most attractive ones by considering the performance of those specific stocks as well as their intrinsic values.

First, the total population was filtered by looking into the market capitalization of the stocks using the MSCI Emerging Markets index. This index is a free-float adjusted market index designed to measure the equity performance of emerging markets including Indonesia. Based on the index, the large and mid-cap companies cover approximately 85% of the free-float adjusted market capitalization of the country. Moreover, liquidity of the stocks was also taken into consideration. As value investors aiming for long term capital appreciation, it would be more practical to invest into safe and liquid stocks, meaning if the investor decides to sell these stocks, it would be easy to do so as the demand for these stocks in the market was relatively high. Upon applying the capitalization filter, the 36 stocks were narrowed down to 8 stocks. The remaining stocks were then further narrowed down to 5 stocks upon taking into consideration the liquidity filter. After which, the remaining stocks were evaluated by looking into the historical financial performance and profitability ratios. Upon looking at the 3-Year CAGR, all 5 of the stocks were able to realize positive growth in revenues, net income and earnings per share; thus all of them moved to the next step of the screening process. These performance ratios were now compared against comparable companies in order to evaluate whether the stock was able to perform better against its peers in the subsector. Profitability ratios, such as EBITDA margin, gross margin and net profit margin, were used in order to check whether the company has been performing better compared to its closest comparable firms in the last twelve months. These ratios provide a good indication on how effective the company is in handling costs in relation to revenues. Return on Assets, Return on Equity and Return on Capital were also examined to order check how efficient the company is in turning its assets and capital into profitable returns. These ratios were compared against the median of the comparable companies of each of the stock. Comparable companies are identified by looking at the

company's business model, size and market served. Any stock which falls below the median of the subsector will be filtered out. Median was used instead of industry average in order to exclude the effect of outliers. Upon looking at the performance ratios of the stocks under the Consumer Goods Sector, four out of the five remaining stocks generally performed better than their comparable companies. Lastly, price and value ratios were used as a filter in order to gauge whether the specific stock is potentially underpriced or overpriced. These ratios include forward P/E ratio, TEV/EBITDA and TEV/EBIT ratios. If the price and value ratios were lower than the industry median, the stock was considered as potentially undervalued and would be worth the investment. Upon looking at the price and value ratios, the information in Table 2 was derived.

Table 2. Stock Selection Filters for the Consumer Goods Sector

Stock	Company	Classification	Liquidity Filter	3-year CAGR	Performance Ratios	Price Ratios
UNVR	Uniever Indonesia Tbk.	Large Cap	V	V	V	Potentially overvalued
KLBF	Kalbe Farma Tbk.	Large Cap	V	V	V	Potentially undervalued
INDF	Indofood Sukses Makmur Tbk.	Large Cap	V	V	V	Potentially undervalued
MYOR	Mayora Indah Tbk.	Large Cap	X	-	-	-
ICBP	Indofood CBP Sukses Makmur Tbk.	Large Cap	V	V	V	Potentially undervalued
GGRM	Gudang Garam Tbk.	Large Cap	V	V	X	-
HMSP	HM Sampoerna Tbk.	Mid Cap	X	-	-	-
ULTJ	Ultra Jaya Milk Industry Tbk.	Mid Cap	X	-	-	-

Table 3. Assumptions Used in the Discounted Cash Flow Valuation

Parameter	Assumptions
Weighted Average Cost of Capital (WACC)	Calculated based on the cost of debt and cost of equity of the company The cost of debt was based on the yield to maturity of forecasted long term bonds The cost of equity was calculated using the Capital Asset Pricing Model (CAPM) The beta was calculated using the historical stock price returns correlated with the benchmark index returns (LQ45) for the past 5 years Risk free rate was based on the average yield of a 10-year Indonesian Government Bond
Revenue Growth	Based on 3-year historical average revenue growth of the particular stock
Terminal Value Growth Rate	Based on the forecasted long term growth rate of the industry where the stock belongs to Forecasted long term growth in the Indonesian economy as reflected in the projected GDP growth

Lastly, the remaining stocks were further evaluated using the discounted cash flow (DCF) valuation. The DCF valuation method was used to examine whether the stocks have a significant upside. The weighted average cost of capital (WACC) for each of the stocks was calculated using the forecasted cost of debt and cost of equity of the company. Growth rates for revenues were based on historical averages while terminal value growth rates were based on the forecasted growth of the specific subsector from which the stock belongs to while taking into consideration the forecasted growth of the economy of Indonesia. For each of the remaining stock, the free cash flow available to investors was calculated using the different financial indicators, such as operating cash flows, net working capital and capital expenditure. The projections were based on the forecasted growth in revenues as well as the industry growth rate reflected in the terminal value. After which, the cash flows were discounted to the present using the calculated WACC

for each of the remaining stock. Table 3 summarized the assumptions used in the discounted cash flow valuation method.

Based on these variables, the intrinsic value of each of the stocks was calculated. The intrinsic value served as the determinant for the forecasted price of that specific stock in the future. If the investor was to invest today, the return that he could generate from that investment would be equal to the estimated upside.

Upon looking into the forecasted performance of each of the three remaining stocks, it could be seen that Indofood Sukses Makmur Tbk (INDF) was forecasted to realize the highest upside of 16.85%. This was primarily driven by the bright outlook for the company as a result of market expansion as well as acquisition of other companies in Indonesia and abroad. Similarly, Indofood CBP Sukses Makmur (ICBP) also realized an upside of 10.03% as a result of growth in revenues due to increasing demand for processed food products. Lastly, Kalbe Farma (KLBF) was forecasted to have a 5.55% upside potential as a result of increasing demand for pharmaceutical products due to increasing government expenditure on health products and services as well as the changing customer preferences towards a healthier lifestyle.

Table 4. DCF Valuation Results of the Consumer Goods Sector

Stock	Company	Intrinsic Value (IDR)	Current Market Price (IDR)	Upside/ Downside
ICBP	Indofood CBP Sukses Makmur Tbk.	18,895.39	17,000.00	10.03%
KLBF	Kalbe Farma Tbk.	1,508.66	1,425.00	5.55%
INDF	Indofood Sukses Makmur Tbk.	8,237.65	7,050.00	16.85%

V. Conclusion

Upon evaluating the Consumer Goods Sector of Indonesia, it was clearly seen that it had continually served as the safety net of the economy. The Food and beverage as well as the pharmaceutical sector stood to have the highest growth potential. In terms of company fundamentals, stocks under those abovementioned sectors were considered top picks and were forecasted to realize significant upsides for investors. The consumer goods sector was a good starting point in investing in Indonesia's stock market. However, it would always be a practical step if the investor would combine it with other sectors showing a negative correlation in terms of returns. For instance, investors can combine their investments in the Consumer Goods Sector with Agriculture, Mining or Infrastructure, utilities and basic industry.

For foreign investors who seek to explore opportunities in emerging markets, Indonesia was indeed one of those who offered such promise returns. However, there were additional challenges that foreign investors must face in investing in Indonesia's stock market. One of which is the Negative Investment List stipulated for foreign investors. There are specific sectors that are banned for foreign ownership such as certain subsectors under manufacturing and transportation. This also put a limit in terms of the amount of shares a foreign investor can own in the stock market. In addition, foreigners investing across borders have to face a number of risks, including currency risks, country risks and legal risks. Foreign investors had to face certain legal restrictions and regulations upon investing in a foreign exchange. Transaction costs would differ and might even be higher if it is a foreign country. Likewise, aside from considering the fundamentals of a certain sector or stock, the investor must regularly monitor what is happening in the country in order to properly forecast the future direction of the sector.

In conclusion, investing in the stock market of Indonesia posed a lot of opportunities for both

domestic and foreign investors. Aside from the Consumer Goods Sector, there are still a number of sectors which required particular attention as prospects for investment. In addition, with the advent of ASEAN integration, the risks that are currently being faced by foreign investors will be eventually minimized.

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An Exploratory Study on the Value Preservation of Bukhansan National Park

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ABSTRACT

This study is to examine the problems arising from preserving the value of Bukhansan National Park as a precious tourism resource in South Korea. Bukhansan National Park is the only national park that is situated in the capital of the country. In order to effectively examine the value of preserving the resource, some cases of foreign countries having advanced skills and experiences in managing their national parks are examined so as to apply them to managing Bukhansan National Park. With this developed preservation method, this study mainly focuses on inducing ways on how to permanently maintain its value. This thesis was researched through a documentary study utilizing books, papers, and related data as well as book and data research to use the exploratory study method. Furthermore, some solutions for the problems through analyzing the current situation of Bukhansan National Park are suggested, with additional proven opinions of several specialists interviewed. As a result, this study is expected to contribute to preserving the value of Bukhansan National Park, which is one of the greatest properties in Korea.

***Keywords**:* national park, tourism resource, value preservation management
JEL Classifications: F10, F59, F60, Q17

I. Introduction

The value of national parks can be discovered in that they are the representation of the natural ecosystem that represents the country with beautiful scenery and historical cultural resources. In 2006, monitoring of Jirisan and 10 other national parks, discovered that 57% of endangered wild animals and plants were found living there despite the fact that national parks are only 6.6% of the total land mass. Thus, national parks are found to be the last resting place for these endangered wild animals and plants. These national parks hold a preservation value of 58 trillion won. The tour pass value is 6.6 trillion won. It has an estimated economic value of 65 trillion won. This indicates that one-citizen holds 1.35 million won of value of a national park (Korea National Park Research Institute, 2007). Bukhansan National Park was designated Korea's 15th national park on April 2nd, 1983. Bukhansan National Park is 79.916km2, including both the Bukhansan and Dobongsan areas. Since urban areas surround the whole park, it is isolated in the environmental perspective. However, it

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serves its best purpose as a green lung in such an urban area. It is also loved by citizens in the city area as a natural resting area. However, the increasing number of buildings, cars, and visitors are polluting the park (Korea National Park Service, 2007a). As national parks stopped receiving entrance fees beginning January 1st, 2007, the number of visitors, especially mountain climbers, has increased greatly. The vast increase of visitors is spotlighting the flaws in the policies regarding the management of national parks. As a result, this research will examine the management examples of national parks in advanced countries abroad. It has a purpose of examining the preservation value and practical use of Bukhansan National Park as well as solutions to the management condition. Furthermore, an alternative will be suggested to the solution.

This research chose Bukhansan National Park from among the 20 national parks in Korea to suggest solutions about the value of preserving the tourism resources of national parks. This thesis was researched through a documentary study utilizing books, papers, and related data as well as book and data research to use the exploratory study method. In addition, related up-to-date information was collected from newspapers, broadcasting news, and the Internet to diversify the utilization of data. In addition, a research method of interviews was used by visiting the parks for first-hand experience and itnerviewing experts.

II. Literature Review

2.1. Current Situation for Bukhansan National Park

Tourism resources in Korea are mostly centered on mountains since about 70% of national land is mountains. Based on the law of natural parks, national parks are a huge part (Song & Kang, 2000).

Table 1. The Main Trails of Bukhansan National Park

Course	Trail
Googi course	Googi valley-Danam gate / Pyeongchang valley-Dasung gate/ Yunhwasa-Bibong ridge-Bibong
Jeongneung course	Bukak tunnel-Hyeongjebong ridge-Dasung gate / Jeongneung valley-Bokook gate / Jeongneung-Ilsunsa-Dasung gate
Suyu course	Bballaegol-Kalbawineungseon-Bookook gate / Hwagyesa-Kalbawineungseon-Bookook gate / Academy house- Dadong gate/ Baknyeonsa-Jindallae ridge-Dadong gate
Ui course	Uidong-Sogwichun valley-Dadong gate / Uidong-Dosunda-Yongarm gate / Uidong-Ui shelter-Wi gate-Bakwoondae
Dobong course	Dobongsan valley-Dobongjoo ridge/ Dobog seowon-Dobong sanjang-Madangbawi-Jawoonbong / Dobong sanjang- Manwolarm-Podae ridge / The first retreat-Darak ridge-Podae ridge
Wondobong course	Wondobong valley-Mangwolsa-Podae ridge / Wondobong-Wonhyosa-Podae ridge / Hoeryong Valley-Sapae ridge
Songchu course	Wongaksa valley-Sapae ridge / Songchu valley-Sapae ridge / Songchu valley-Jawoonbong
Bukhansan course	Hyojari-Wonhyobong / Deseo gate-Wi gate-Bakwoondae / Daeseo gate-Joongsung gate-Daenam gate / Daeseo gate –Uisangbong-Moonsoobong(*risk course)
Bulgwangdong course	Samchunsa valley-Bibong ridge / Jinkhwansa valley-Bibong ridge / Bulgwangsa-Bibong ridge

Source: Bukhansan National Park (2007).

Bukhansan National Park is comprised of granite, which was formed 150 million years ago during global crustal movements. From then on, it was tailored through all sorts of precipitation. Among the major peaks, there are numerous clean mountain streams that create a beautiful harmony between mountain and

water. Among these areas, more than 1,300 different types of animals and plants live there. In addition, it is an area of sightseeing, ecology, history, culture, and cultural heritage with the Bukhansanseong (fortress) that contains more than 2,000 years of history after the period of the Three States. There are also more than a hundred temples and more small temples around the area. Further, Bukhansan National Park is the only national park that is situated in the capital of the country. Anywhere around the world, there is no such park that has such a great mountain as in in Seoul. Furthermore, Bukhansan is not only a place where the ten million citizens of Seoul breathe and live their lives but is also a great resting place in the city where professional mountain climbers and amateurs alike can enjoy the harmony of the high and low mountain peaks. The various trails are as seen below in Table 1.

The area of Bukhansan National Park is 23.73 million pyong ($3.3m^2$) in both Seoul and Gyeonggi province. Uiryeong divides the South as the Bukhansan area and the North as the Dobongsan mountain area. It is always easy to approach in the capital area and since the traffic system is ideal, there is an average of 500 million tourists every year. It is recorded as the national park with the most tourists per unit area. This excessive tourist supply is continuing to harm the natural ecosystem of Bukhansan (Visit Seoul Net, 2007).

2.2. Research Regarding the Preservation of the Value of Tourism Resources

Tourism resources are a fairly broad topic that cannot be defined. The tourist phenomenon that defines tourism resources are the according natural and cultural phenomenon as well as the interaction between the tourist facilities and services that the tourist business provides. It is a definition of this entire tourist phenomenon in concrete and intangible forms. These tourism resources are not focused on preservation, but rather in the production. Different from ordinary resources, they have a huge public value, so they seem be like public goods. It is because the efficiency of these tourism resources increases when many people use it together simultaneously. This value can be divided in to use value and non-use value. Use-value simply means the value from utilization, while non-use value refers to the value that can be felt simply by its existence such as ‘cultural’ or ‘heritage value.’ Yoo (1992) researched the influencing factors of the preservation value of tourism resources as well as an estimated model. Choi & Park (1998) researched the uses of national parks in the capital area to study the preservation value of natural parks in the city. Min (1998) estimated the preservation value of a figure based tourism resource and the influencing factors. These studies have mostly suggested ways that would effectively preserve the value of these tourism resources.

2.3. The Value of Bukhansan National Park as a Tourism Resource

Natural and cultural tourism resources are luring tourists to Bukhansan National Park. Natural tourism resources refer to those tourism resources that focus mainly on the natural environment and beautiful scenery. Due to the dense population in the city area, the excessive consumption of electricity and increase in the use of cars are increasing the concentration of atmospheric pollution. For such environmental damage, Bukhansan National Park serves as a significant environment purification source. Higher animals, including human beings, maintain a stable mental state when the environment around them is comprised of at least 30% green. However, the city of Seoul only has 10~15% of green while artificial structures (concrete and asphalt) take up 80~85%. As a result, citizens of Seoul suffer from a loss of green. Bukhansan National Park provides citizens of Seoul and the city area a place for purification of emotions.

Due to the expansion of the city, demand for development is continuing to grow as it destroys natural ecosystems. Bukhansan is the last area for animal and plant habitats. Since most natural ecosystems around city houses are destroyed, Bukhansan National Park serves as a very effective

place for examining ecosystems and studying nature (Choi & Park, 1998).

Mountain areas that are the exemplar natural tourism resources exist in a comprehensive scenery with the differences in the mountain's shape, snowy landscape, mountain peak, streams, rocks, hot springs, and organisms that live there. Bukhansan's mountain resources are varied as seen in Table 2 below. The mountain itself has beautiful scenery that continues to lure tourists. Its close location from the city also is another point that adds to its popularity.

Table 2. Bukhansan National Park Mountain Resources

	Bukhansan	Dobongsan
Summit	Bakwoondae (836.5m), Insoobong (810.5m), Mankyungdae (799.5m), Nojeokbong (716m), Bohyeonbong (714m), munsubong (727m), Bibong (560m), hyeongjebong (467m), Wonhyobong (505m), uisangbong (502m)	Jaunbong (739.5m), Manjangbong (718m), Seoninbong (708m), Joobong (675m), Obong (625m), Uiam (542m), Sapaesan (552m)
Fantastic Rock	Turtlebawi, Samobawi, Brotherbawi, Elephantbawi, Yongbawi, Skullbawi, Byeongpoongbawi, Jokduribawi, Kidobawi, Goongkibawi, Dockbawi, Someribawi	Wooyiam, Toadbawi, Joobong, Turtlebawi, Terrapinbawi, Tigerbawi, Skirtbawi, Navelbawi, PillarsBAWI, Injeolmibawi, Rickshawsbawi, Laddersbawi, Heobeongdaribawi
Valley	Wooik valley, Bukhansansung valley, Hyojari valley, Jinkhwansa valley, googi valley, Pyeongchang valley, Jeongneung valley, Samchunsa valley, Goochun valley	Dobongsan valley, Angol valley, Musugol valley, Wondobongvalley, Songchu valley, Hoeryonggol valley
Waterfall	Dongryeong waterfall, Goochun waterfall, Gaeyeon waterfall	Songchu waterfall

Source: Korea National Park (2016).

Human tourism resources refer to tourism resources that are in correspondence to nature, unlike natural resources that are formed through natural methods. Thus, if natural tourism resources are derived from the environment in its natural form, human tourism resources are artificial, man-made resources. Human tourism resources are various and difficult to categorize based on their functions; however, based on their characteristics, they can be divided into cultural tourism resources, social tourism resources, and industrial tourism resources (Kim, 2003).

Table 3. Bukhansan National Park Cultural Tourism Resources

Type	Cultural Tourism Resource
Historical Site	King Jinheung's Sunsubi (No.228, historical site), Bukhansanseong Fortress 8348m, Castle gates 14 (No.228, historical site)
Treasure	Taegosa: Wonjeungkooksatabbi (No.611, treasure), Samchunsa: Maae Budda Tathagata Standing statue (No.657, treasure), Sunggasa: Maae Budda Tathagata Seated statue (No.657, treasure)
Provincial Intangible Cultural Heritage	Googi Course: Tangchundaeseong (No. 33), Wondobong Course: Hyegeogooksabudo (No. 122), Chunbongdangtaeholtap (No. 66), Chunbongsunsatapbi (No. 67)
Temple	Mangwolsa, Hoeryongsa, Ssangyongsa, Daewonsa, Beophwasa, Dougchunsa, Sukchunsa, Hongbeopsa, Wonhyosa, Chunmunsa, Gijangsa, Hoarmsa, Wongaksa, Songamsa, Doseongam, Seokguram, Taegosa, Wonhyosa, Sangunsa, Nojeoksa, Guknyeongsa, Deokamsa, Muryangsa, Sunbongam, Daedongsa, Yonghaksa, Bongsumam, Dosunsa, hwagyesa, jingwansa

Source: The author altered using Korea National Park (2016).

Bukhansan National Park is a human tourism resource and has a large variety of cultural tourism resources. Among those, as seen in Table 3, there are many historical sites, Buddhist temples, and cultural assets that make this a very significant tourist spot. In addition, intangible cultural assets, such as cultural events, are also doing their role as a tourism resource.

2.4. Analysis of the Management System of Advanced Foreign Countries

It seems that the examples of other foreign countries and their management states are able to suggest many things to us. These countries have recognized the need for a national park earlier compared to Korea and have developed their management systems ever since.

2.4.1. Analysis of America's Management System

In the early American management system, national parks served as the preservation of nature and as a resting place for the citizens. However, due to the increase of tourists and the lack of accommodations, campgrounds, and other facilities, a strict management policy was introduced in the 1950s as a result of damage to plants and animals. A basic reappraisal was made that identified that rather than providing rest, it is important to preserve the natural scenery and wild plants and animals. Special laws were enacted to limit the camping grounds within national parks and have introduced strong restrictions on commotion as well. It is the model of the world's national park management policies. In addition, the U.S. congress asked for a study on the visitor carrying capacity in each national park to the NPS (National Park Service). The main managers and environmental groups are continuing the study process in the national parks and have reached a conclusion that tourists are unpredictable and prefer a diffused pattern. They are continuing to place restrictions upon the number of visitors. The rangers in American national parks hold loaded guns, clips, and handcuffs. This strong authority that the rangers hold seems to have a great effect on managing the park itself and restricting illegal practices. The largest problem in the management of national parks is the dispute regarding property rights between individual owners and the government. The decision is made with the participation of regular citizens. However, many landowners have offered their land in regards to public interest and preservation. This pattern was formed earlier that has formed a voluntary awareness of participation (Lee et al., 2001). Through the passage of the Conservation and Reinvestment Act, the budget problems regarding the purchase of private land has been resolved through collection of funds.

2.4.2. Analysis of Japan's Management System

Japan's national park system was made quickly (Jo, 2004). In the early 1900s, they designated museum parks, and in 1929, they established the national park association. In 1931, a national park law was passed. As a result, including Setonaikai in 1934, seven national parks were introduced. There are currently 28 national parks and 54 government parks, as well as 381 nature parks, including 299 Dodobu museum parks. The area is 53,295 km^2, taking over approximately 14.11% of Japan's land mass. Japan's national park policies hold many meetings that are mostly the basis for our country's policies. Japan's national park land area is divided into special and ordinary area. The special area that takes up over 71% of the area is again divided into three types to minimize damage and keep a focus on preserving the value. It is under strict management. Ordinary areas that usually have city or villages within the park do not have many restrictions. In contrast to Korean citizens that visit national parks about 0.9 times annually, Japanese citizens usually visit 3.1 times on average every year. The big difference between capacity and accommodation has a huge role. In Korea, most people stay the night, while in Japan people keep moving with transportation methods. Through circulation, it is able to sustain that many visitors. It is minimizing environmental damage and production of contamination through reducing the

time of stay within the park. Furthermore, it is possible to move around to many places in a short amount of time.

Something we should learn from Japanese national parks is the visitor centers that are the park's main guidance as well as education center. There are 42 visitor centers around the 28 national parks. Installation is done by the environmental bureau of the government while other needs are met by related organizations. These are usually about 99~198m^2 large including audiovisual rooms, a mimic diagram of the whole park, stuffed specimens in the area, diagrams, and explanations. These visitor centers are managed by the national park management office as well as local governments and environmental organizations. A distinct characteristic of Japanese national parks is that they have various artificial facilities to show the natural scenery. However, there are specific policies regarding the actions within the national park. Although it does not hold any legal power, the management plans by the head of the management of the national park states clearly the areas that have to be protected and preserved. The size, color, location, and design of various constructions are all under a management manual. This is an exemplary case.

2.4.3. Analysis of England's Management System

England started gaining interest in the preservation and research of plants and wild animals in the 19th century. As these interests grew, a national park law was passed in 1949 with three aims: (1) widening the approach of ordinary citizens to nature, (2) preservation of natural scenery, and the (3) protection of wild animals. Later on, they established the National Parks Commission, which designated ten national parks from 1951 to 1957. After that, in 1988, there were 11 national parks. The national park policy is only in England and Wales. Scotland has a national scenery area policy rather than this policy. In Northern Ireland, there is a nature scenery policy. Each national park in England has 100 - 300 volunteers. Since there are great social guarantees, many English citizens have strong pride in community service. These volunteers form clubs based on the rules and submit them to the national park management office. The office subsidizes all costs needed except personnel expenses. The work that they do is usually patrol, repairing roads and trails, and managing traffic. Some even work as tour guides.

According to the national park law of England, a national park plan has to be written. There is an afterlife assessment that has to be done every five years to check if the plan is realistic in application. Unlike the U.S., there are many privately owned national parks; however they are strictly protecting the environment by opening reservations 2 weeks in advance from visiting. If the visitor capacity exceeds its limits, they stop receiving reservations. Through this reservation system, they are strictly protecting the environment.

2.4.4. Analysis of Germany's Management System

Germany does not have a long legacy regarding the concept of national parks. Germany established their national parks quite late compared to other major European countries. The first type of such preservation area is forest national park in Bayern. It opened in 1969. In East Germany, the concept of national parks was not accepted. Just before the German unification, five national parks were designated and had been acknowledged for their high value as a natural area in central Europe. The need for a national park information system based on the ecosystem model was suggested. Thus, Germany is actively doing research work on their national parks. In addition, IBM, a company based in Germany, is a partner of the national park under the name Germany IBM. They are not only supplying the monetary needs but are also providing the information network regarding national parks and the ecosystems to preserve Germany's national parks and natural environment. Germany's national parks are divided into NPA (National Park Authority) and NPS (National Park Service). Other than these, they are also managed by NGOs and individuals. The NPA's major

duties are to make mid- to long-term plans about the preservation of park resources, research, investigation, monitoring, and management of NPS, maintaining cooperation with environmental protection organizations, advertising and educating tourists and citizens about national parks. The NPS and NPA work independently. NPS is a non-profit corporation established in 1999. Thus, they have a concept of a corporation for the public good. The government owns 55%, local governments 15, and environment protection organizations own 30% of the stakes. Their main duties are advertising to tourists and local citizens, managing visitor centers, watching out for illegal actions, managing waste, and managing fences and information signs. The NGOs are working independently with donations and membership fees. They usually have much to do with educational activities (Korea National Park Service, 2007a). In the case of community service policies, farmers and forest rangers are considered highly educated. They have a policy that people with certain level of certification through testing can only be involved with management.

Table 4. National Park Service Regional Comprehensive Comparison

Division	U.S	Japan	U.K	Germany
Year of introduction of national parks	1872	1934	1951	1956
Total area/ Number of national parks	338,312 km^2/ 58 parks	20,473 km^2/ 28 parks	14,618 km^2 / 15 parks	9,544 km^2 / 14 parks
National Status	World's first national park	First national park of Asia		Large scale national mud flat park
Management Institution	Ministry of Home Affairs	Ministry of Environment	Environmental Agency	National Park Service Office
National Park Service	NPS (National Park Service)	Nature Protection State	State Government	NPS (National Park Service)
Judicial Power	Ranger (Police)	No judicial power nor illegal actions		
Guide System	Visitor Center (needs confirmation and reservation)	Visitor Center, circulation method used	Visitor Center, Reservations	Visitor Center
Entrance Fees	Collects	Does not collect	Does not collect	Does not collect
Visiting method	Cars, education, and rest	Cars, education, and rest	Rest	Education and rest
Land Ownership	State-owned	State-owned + Private	Private (Some state-owned)	State-owned
Focus of management	Preservation of original state and education of visitors	Preservation and passive regeneration	Protection and preservation of natural scenery based on private land	Preservation of scenery and securement of various organisms
Workers	Regular staff and volunteers	Volunteers and local government	Regular staff and volunteers	Regular staff and volunteers
Behavioral Restrictions	Limits on number of visitors	Different behavioral restrictions based on the grading of the management area	Behavioral restrictions	Restrictions on trails and no photographing or movie shoots

Source: Korea National Park Service (2007b).

2.5. The Harmony of Preservation and Use of National Parks.

Local governments in the whole country are producing various ideas under the justification that the efficient preservation and use of national parks will

liven the local economy through tourism. One of these is to install cable cars so that people can easily observe the natural scenery in the mountains without having to walk around. There are 11 spots for cable car installation as seen in Table 5. However, in the Ministry of Environment's cableway installation consideration, there are very strict standards that have made it impossible for cable car installations until now.

Thus, the Ministry of Environment is currently searching for an eco-friendly ropeway and guidelines from June 2008.

Table 5. Organizations that Have Applied for Cable Cars

National Park	Autonomous Community	Requirement of Content	Length (km)
Seoraksan	Kangwon Yangyanggun	Ohsak~Daechungbong	4.7
Seoraksan	Kangwon Kosunggun	Daemyung condo~Ulsanbawi	1.48
Jirisan	Gyeongnam Guryegun	Jirisan condo~Sungsamjae	2.9
Jirisan	Gyeongnam Sancheongung	Joongsanli~Jangturri	5.0
Hallasan	Jejudo		
Wolchulsan	Gyeongnam Yeongamgun	Cuhnhwang parking lot~Kwangamtur	3.0
Hallyeohaesang	Gyeongnam Tongyeongsi	Island Annular cable car	23.4
Hallyeohaesang	Gyeongnam Geojesi	Oedo~Nado	3.0
Bukhansan	Seoul Seongbukgu		
Gajisan	Gyeongnam Miryangsi	Eoleumgol cable car	1.7
Palgongsan	Daegu metropolitan city	Gatbawi cable car	1.2

Source: Ministry of Environment (n.d.).

The cable car ropeway in Mireuksan, Sanyangeup, Tongyeong, Gyeongsangnamdo Province is the longest in Korea, recorded at 1,975 meters long. This cable car can look down at the Hallyeosudo and started construction in December 2002 and opened April 2008. The average number of people each day is 3,000 to sometimes even 5,000 people. This is a great help to liven the local economy. Seeing this successful example, over 50 local governments around the country are benchmarking. However, environmental organizations claim that this is leading to environmental destruction. These organizations are against it all. The largest controversy among their argument is the limitation on the facility that will be built at the end of the cable car way. This argument is supported by the environmental destruction by the cable car of Naejangsan. Miryansi in Gyeongnam pursued cable car installation in Eoreumgol Valley in 1998 to lure tourists; however, it gave up in 2002 due to environmental organizations' oppositions. In 2007, they pursued the same plan again in which Nakdong River Basin Environmental Office gave partial consent to the construction (JoongAng Ilbo, 2008). Among the many worries and conflicts within the boundaries of preserving and utilizing national parks, there should be the best consensus. Through a pragmatic and protectionist approach, many organizations should work together through meetings and public hearings to preserve national parks in a way that they are useful and approachable for human beings.

III. Issues for the Management of Bukhansan National Park

3.1. Problems of Resource Management

High apartments and indiscriminate intrusion of shops are not only destroying the environment around Bukhansan National Park but also damaging the scenery around the natural park. This is due to the local residents and their private ownership of property as well as citizen alliances that seek to protect the environment around the park. As seen in Table 6 below, 40.05% of the whole area is private with various restrictions. It is very difficult due to all the

construction restrictions, licensing, and lack of infrastructure to build convenience facilities for tourists in the park.

Table 6. Bukhansan National Park's Current Situation in Landholding

Park Zone				
National Property (%)	Public Property (%)	Private Property (%)	Temple Property (%)	Total (%)
49.3	8.8	40.05	1.4	100

Source: Korea National Park Service (2007c).

Other than the temples in the park, there are also 130 households living within the park. Accordingly, there are many conflicts with the residents of the area and the management policies of the park itself. There are many difficulties because the residents that live in the park are not under control. The street vendors and commercial activities within Bukhansan National Park are at a fatal level around the entrance of the park. The management corporation claimed that they are continuing to bust these street vendors; however, commercial activities are still taking place in hidden places.

In addition, ever since the natural park was designated, emphasis was placed on building an entry with the developmental policy. Among the total investments made to the natural parks, about 40% was used to build entries and roads within the park. As a result, many cars pass through Bukhansan National Park. The frequent passing of cars is giving despair to people that came to find clean air and nature from the entry of the park. Currently, other than the hiking trails, there are approximately 200 byways in Bukhansan National Park. There is no way to stop people that go through these by ways. Due to these byways, the environment around these paths is being severely destroyed. In addition, the exact number of visitors cannot be calculated. As a result, adequate management of the park environment is difficult.

Table 7. Bukhansan National Park Land Utility Status by Specific Use

Specific Use District	Extent (km^2)	Distribution Ratio (%)	Location
Total	79.916	100.0	
Nature Protection District	29.742	37.3	Animals and plants or natural monument area Dobong ridge and Podae ridge district Sanjang ridge-Ui didge –Sansung ridge-Joo ridge district Wonhyo ridge – Uisang ridge - Bibong ridge - tangchun ridge district
Nature Environment District	48.698	60.9	except nature protection district and community district
Community District (nature, congestion)	1.474	1.8	
Community Facilities District	0.749	0.9	Bukhansan district Uidong disrtict Dobongsan district Songchu disrtict One Dobongsan district Jeongneung District

Source: Korea National Park Service (2007c).

3.2. Problems with Administrative Control

A nature protection district is one of the specific use areas of the Town Planning and Zoning Act. It is a district that is designated for the improvement of land use and environment protection. Korea's park's natural environment protection policies are through the specific use areas that restrict construction and certain behavior to protect the environment. However, in the current case of Bukhansan National Park, the nature protection district is 37.3% as seen in Table 7. It is an 11.3% increase from ten years ago, 1997. This is because of the reforms done to the specific use district that increased the area of nature protection districts. It is a great improvement. However, considering the purpose of national parks, the area seems comparatively small (Korea National Park Service, 2007a).

3.3. Problems with Visitor Management

The peak season of Bukhansan National Park is late August through mid-October. During this time, it is full of commotion with the visitors going to the summer stream and fall foliage in autumn. Especially in the summer, The number of visitors exceeds the capacity of the park to visit the streams around Bukhansan. As a result, the destruction of the ecosystems around the streams and environment is severe. Of course, the park management corporation is trying to introduce systems like a nature year-off to minimize the damage to the nature. However, an enthusiastic solution is needed in this situation to diffuse all the visitors that come to Bukhansan. Most people that come to Bukhansan National Park come to hike. These hikers often hike through the night and use the accommodations provided within the park. However, the accommodations within the park are only two campgrounds and six shelters. In the peak season when the numbers of people exceed the park's facilities, these visitors cannot stay legally even though they want to. Therefore, many people are camping in places that they are not supposed to and are harming the environment (Korea National Park Service, 2003).

IV. Improvement Plans in Management for Bukhansan National Park

4.1. Improvement Plans for Resource Management

Seoul's green operation division's plan to build a planetarium of 52,417m^2 behind Dobongsan near Bukhansan will have 130 types of water flowers, medicinal plants, and marshy vegetation. It was to be built by June 2009. The planetarium was expected to assist the management of the national park and spread out visitors. The nature education program within Bukhansan is needed as a precedent activity to guide different social stratums such as students and office workers. In order to protect the residents and clean up the private property within Bukhansan National Park, the government is continuing to increase the budget and buy private property. However, they will have to work to protect the livelihoods of these residents that have to move. Illegal commercial activities and temporary buildings have to be regulated. Since the mountain is in the city, many buildings are allowed to be built in high places. As a result, the mountain is becoming destroyed. Both the urban and natural scenery should be protected.

In addition, the change of specific use districts has a myriad of legal issues involved. It seems to be difficult to be done at the moment; however, it is a process that must be done through law reforms step-by-step. By increasing the value of nature preservation, nature districts, and neighborhood park greens to people, ecosystem protection districts should be increased to preserve the environment.

4.2. Improvement Plans for Administrative Control

When considering the examples from foreign countries, the solution for Bukhansan National Park is to have experts of specific areas to manage the park. These people should submit specific plans and

research reports on their area and give them the wholehearted support of administrators to be applied to the park management. In the case of the visitor centers, the current visitor center should have better facilities of larger size around 99-198m^2 with audiovisual rooms, a mimic diagram of the whole park, stuffed specimens, diagrams, and explanations (since July 1st when the entrance fees were abolished, the name was changed to visitor support centers). Furthermore, models introducing cultural heritage with pamphlets could make this park into an international facility and tourist spot. The formation of a suitable environment for international tourists is needed.

Preparation of first-aid medicine, trail marks, arrow directions at forked roads is needed. In addition, the marked trails should be safe for walking by making steps or narrow paths in certain districts to prevent people straying from the path. Enthusiastic promotional activities should be done to increase awareness about the value of safety and preservation. Nature learning parks and explanation programs should be revitalized. Currently, only people that are related to the area or researchers are the only people interested in these programs. Publicity and programs that require participants that would grab the attention of the people which would help Bukhansan National Park do its job as an ecological park within the city. In addition, the entrance fees of national parks have been abolished since July 1st, 2007. By this decision, the government has to pay approximately twenty trillion won each year. Despite this burden, the government has to execute an adequate and efficient budget for the management and preservation of national parks.

4.3. Improvement Plans for the Management of Tourists

In the case of community service policies, there are many issues regarding a sense of responsibility and credibility. In order to solve these issues, systematic training and improvement in recognition is highly needed and people have to work enthusiastically for the volunteer policy that is needed in national park management. Having campaigns that create a nice atmosphere for community service in our society will indirectly urge people to love our nature and culture. Byways other than trails should be strictly restricted to protect the environment from indiscreet destruction and disasters. The disadvantages of the use of 200 byways should be sufficiently explained and aim to gradually eliminate them. First of all, information panes should be installed around byways to distribute the vast number of visitors that have increased ever since the abolishment of entrance fees. This, along with the current scientific ecosystem management (stream year-off and nature year-off of destructed areas) and different transportation methods such as monorails and cable cars can minimize the direct impact of visitors. Through this circulating system, it can minimize the damage imposed on the environment as well as rubbish. At the same time, visitors can look around the park area for a short amount of time. The Korea National Park Service decided that from April 2009 that littering, using byways, collecting wild edible greens, illegal parking, and bringing pets would be subject to prosecution. The first time, people would be given a warning. The second time, the person will be fined.

Accommodation facilities within Bukhansan National Park are not adequate. However, the visitors do not leave the mountain despite the lack of lodges. These people naturally go deep into the mountain away from controlled areas to camp. As these people start camping at places that are off limits, preserved areas will naturally be subject to destruction. This small act as a whole will create great damage to the entire Bukhansan National Park. To solve the basis of the problem, a trail information system should be introduced to combine all the information and look at it holistically. A geography information system (GIS) that divides the hiking trails and visitor areas into a system with all the data and area information should be introduced as well.

V. Conclusion

Through the introduction of a five-day work schedule and increase of disposable income, the role of a national park as a tourism spot is increasing. As a result, an efficient management policy is needed to achieve contrasting aims of national parks: preserve, protect, use and develop. Bukhansan is the only national park that is within a capital of a country. It is also a natural park that contributes to the twenty million citizens' health and emotions as well as a cultural heritage that is worthy of protection. Based on the management state of national parks abroad, a deep discussion about management for the value preservation of Bukhansan National Park is highly needed. There are three improvements for the management of Bukhansan National Park. First of all, for the improvement of resource management, enthusiastic advertisements are needed for the nature education program within Bukhansan. Private property within the park should be organized and the original residents needed to be protected. Strict regulations should be placed upon unlicensed business conduct and temporary construction. In addition, the change of specific use districts has a myriad of legal issues involved. It seems to be difficult to be done at the moment; however, it is a process that must be done through law reforms step-by-step. Furthermore, models introducing cultural heritage with pamphlets could make this park into an international facility and tourist spot. Secondly, the management of Bukhansan National Park has to have experts in specific areas to manage the park. In the case of the visitor centers, they should be managed as international facilities for the foreign tourists and for the development of the park as an international tourist spot. In addition, more publicity activities and participatory programs should be developed for various nature related activities and programs.

Lastly, as a visitor management solution, volunteers should work hard for the management of national parks. Strict regulations should be placed on trespassing trails to prevent indiscreet destruction or disasters in the environment. In addition, the impact of people should be minimized to protect our ecosystem like the stream year-off and natural vacations of destroyed areas. Furthermore, there also is a need for a combined management system. The vast increase in the number of visitors is harming our environment (Dirk & Spenneman, 2007). However, we human beings also should be respected for the values that we gain from nature. The 20 million citizens have to love and protect Bukhansan National Park to protect and preserve the natural value and humanistic value with high morals and nationalism. This study was about the value preservation of national parks. It has a weakness in that it is only regarding Bukhansan National Park of the 20 national parks in the country. Its credibility and objectivity also cannot be digitized due to the content from interviews of various experts. Based on the disadvantages of this research, there should be detailed and systematic research on the management system of the national parks all around the country.

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Development Gaps in the ASEAN: A Comparison of the ASEAN6 and CLMN Using Gravity Models of Trade

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ABSTRACT

With full integration still not realized beyond the December 2015 deadline for the broad implementation of the Association of Southeast Asian Nations (ASEAN) Economic Community (AEC), this study provides an analysis of the factors that affect intra-ASEAN trade, particularly comparing the ASEAN6 (Brunei, Indonesia, Malaysia, Philippines, Singapore, and Thailand) and the newer CLMV (Cambodia, Lao People's Democratic Republic, and Vietnam) member nations. Comparative analysis of the trends in imports, exports, and total trade among the ASEAN member states, coupled with the use of augmented gravity models of trade, show that there are disparities between the two blocs in terms of output, population, real exchange rates, non-tariff barriers, and trade flows. In addition, alongside the usual trade attractors and barriers, trading times and requirements as well as CLMV membership significantly affect changes in trade values. These results imply possible policy directions in line with closing development gaps between the two blocs considering AEC key strategic areas of action.

***Keywords**:* augmented gravity model of trade, regional integration, CLMV, ASEAN6, development gaps
JEL Classifications: C22, F14, F15

I. Introduction

The Association of Southeast Asian Nations (ASEAN) was established in 1967 with the five original member states of Indonesia, Malaysia, Philippines, Thailand, and Singapore banding together for purposes of regional peace and security (Chia, 2011). These five charter ASEAN member states (AMS) were joined by Brunei Darussalam in 1984, forming the six-member association (ASEAN6) that lasted for more than a decade. In more recent years, the four other nations of Vietnam (1995), Lao People's Democratic Republic (1997), Myanmar (1997), and Cambodia (1999), commonly referred to now as the CLMV, have since joined the ranks of the ASEAN.

Although initially established for geopolitical reasons, ASEAN has since served as a venue to foster economic cooperation, which began modestly in 1977 by way of preferential trade agreements (Chia, 2013). The 1992 ASEAN Free Trade Area (AFTA), the 1995 ASEAN Framework Agreement on Services, and the 1998 ASEAN Investment Area have since provided more economic integration among the AMS. With the emerging challenges presented by neighboring China and India, while at the same time realizing that the

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region would have better leverage with stronger partnerships, the AMS, in 2003, agreed to the formation of an ASEAN Economic Community (AEC) as one pillar of the ASEAN Community, along with the ASEAN Political Security Community (APSC) and ASEAN Socio-Cultural Community (ASCC). With an initial target launch in the year 2020, the establishment of the ASEAN Community was eventually advanced to December 31, 2015.

As an economic community, ASEAN is envisioned to deal with the global community as (1) a single market and production base, (2) a highly competitive economic region, (3) a region of equitable economic development, and (4) a region fully integrated into the global economy. This integration entails liberalization of trade, including measures to eliminate all tariff and non-tariff barriers to trade, enhance interconnectivity, and other measures to facilitate freer flows of goods, services, investments, capital, and skilled labor (Daite, 2013). According to the AEC Blueprint, one important component of the single market and production base is Food, Agriculture, and Forestry (FAF), with the other component being the priority integration sectors (PIS) of which eleven were initially identified in the 2004 Framework Agreement. A twelfth sector on logistics services that cut across all priority sectors was added in 2007.

Based on the AEC Scorecard for the years from 2008 to 2011, ASEAN has achieved an average of 67.5% of the targets for all key characteristics of the AEC (ASEAN Secretariat, 2012). Achievements have been best realized relating to the Integration into the Global Economy with 85.7% of targets reached, while the least achievements have been made in the Single Market and Production Base at 65.9%. It has been recognized that the measures targeted in the AEC Blueprint have mostly been met in terms of trade facilitation, with almost no tariffs being implemented at present, although some non-tariff barriers (NTBs) still remain. Based on reports, these NTBs are mostly in the form of certifications required by destination countries that many AMSs are still unable to provide for their products as well as other quality standards required by importers that many AMSs are unable to meet.

With the deadline already past, most critics of this integration effort would say that the ASEAN Community has not been realized at this point. However, other observers would contend that the December 2015 target is simply a milestone in the continued efforts to fully integrate the different AMS into one unified market and production base, with most tariffs on intra-ASEAN goods already eliminated, particularly in the ASEAN6. From the provision of further technical and development cooperation as well as the extended deadlines for tariff elimination related to the economic integration of the AMS, a development divide has been acknowledged, particularly between the more senior members of the ASEAN6 and newer CLMV member states.

This study thus intends to provide an analysis of the factors that affect intra-ASEAN trade, particularly comparing the bloc of charter AMS of the ASEAN including Brunei (ASEAN6) and the bloc of the newer CLMV member nations. It would thus be possible to describe if trade and wider macroeconomic performance in the ASEAN has improved, probably encouraged by preferential trade agreements among the AMS that may signify the incentive effect of better economic integration. Although this integration may not sufficiently address the development divide, results may also provide indications of how younger member states can close the observable macroeconomic performance gaps with the older member states. By presenting the trends of intra-ASEAN trade and determining factors that influence these trends, results of this study may afford clues to appropriate government policy actions and interventions.

II. Methodology

The study first takes a look at levels of exports, imports, and total trade among the various ASEAN member states (AMS) as well as between the ASEAN6 and the CLMV blocs. Significant trends and

developments in these factors are indicated in relation to trends of other macroeconomic variables to ascertain if there are any potential associations.

To further analyze these possible relationships, considering the extent to which data are available, earlier estimation models were reviewed for their suitability to fashion an augmented gravity model. Factors other than the usual economic attractors or impediments are included to provide approximations of possible cross-country impacts on trade at the macro-level that addresses the specific circumstances of the individual AMS in the region.

Analogous to Newton's Law of Universal Gravitation, the original 1962 Tinbergen gravity model for analyzing international trade assumes that a mass of goods and factors of production at the origin is attracted to a mass of demand for the same at the destination, although the potential flow is reduced by the distance between them (Salvatici, 2013). With its foundation rooted in physical laws of gravity and electrical force, the gravity model assumes that flow of goods is impacted by the potential capacities of the trading partners (where larger economies are expected to participate in trade more) and stimulating or restraining trade factors (Hemkamon, 2007). The standard gravity model would explain bilateral trade flows as a function of trading partners' market sizes and the bilateral barriers to trade (Hapsari & Mangunsong, 2006), which are commonly measured as distance variables.

In addition, many gravity models have been augmented to include variables that represent factors that could either facilitate or impede trade, such as preferential trade agreements (Martinez-Zarzoso, 2003), regional blocs (Ekanayake, Mukherjee, & Veeramacheneni, 2010), and economic integration (Koh, 2013). The approach has been criticized in the past for its inability to determine whether market shares rather than specialization causes the gravity effect, to explain how differentiated products should be analyzed, or to account for indirect trading. However, its popularity as a means to show determinants of bilateral trade has not been reduced and has led to different specifications to account for some of these limitations (Hemkamon, 2007).

In terms of model specification, the use of panel data for these estimations follows the logic of previous studies to better control unobserved heterogeneity (Bun, Klaassen, & Tan, 2007). Although the Hausman test is usually used for the determination of whether to use fixed effects (FE) or random effects (RE) specifications (Chakravarty & Chakrabarty, 2014), the random effects model is by default used in this study because of the presence of time invariant explanatory variables in the equation. To further rationalize this choice, a Breusch-Pagan Lagrangian Multiplier test is conducted for each regression run (exports, imports, and total trade as separate dependent variables) to provide evidence of panel effects or significant differences across units.

The estimations regarding the intra-ASEAN trade are over all ASEAN member states, where the trading partners for each AMS comprise all other AMSs. The time period considered is from 1989 to 2013, for years when observations are available. Flows of exports and imports are modeled separately as well as total trade (exports plus imports), the latter as a proxy for the openness of each particular economy. This empirical work was based on the following models:

$$lnX_{ij} = \propto +\beta_1 lnGDP_i + \beta_2 lnGDP_j + \beta_3 lnPopn_i + \beta_4 lnPopn_j + \beta_5 lnDist_{ij} + \beta_6 lnRER_{ij} + \beta_7 CLMV_i + \beta_8 CLMV_j + \beta_9 lnTradTimeEx_{ij} + \beta_{10} lnTradDocEx_{ij} + \mu_{ij} \quad (1)$$

$$lnM_{ij} = \propto +\beta_1 lnGDP_i + \beta_2 lnGDP_j + \beta_3 lnPopn_i + \beta_4 lnPopn_j + \beta_5 lnDist_{ij} + \beta_6 lnRER_{ij} + \beta_7 CLMV_i + \beta_8 CLMV_j + \beta_9 lnTradTimeIm_{ij} + \beta_{10} lnTradDocIm_{ij} + \mu_{ij} \quad (2)$$

$$lnXM_{ij} = \propto + \beta_1 lnGDP_i + \beta_2 lnGDP_j + \beta_3 lnPopn_i + \beta_4 lnPopn_j + \beta_5 lnDist_{ij} + \beta_6 lnRER_{ij} + \beta_7 CLMV_i + \beta_8 CLMV_j + \beta_9 lnTradTimeEx_{ij} + \beta_{10} lnTradDocEx_{ij} + \beta_{11} lnTradTimeIm_{ij} + \beta_{12} lnTradDocIm_{ij} + \mu_{ij} \quad (3)$$

where all variables are in their natural logarithms (ln); Xij is the total export value of country i (AMS) to country j (trading partner); Mij is the total import value of country i from country j; XMij is the total trade value (sum of export value and import value) of country i to/from country j; GDPi is the gross domestic product of AMS; GDPj is the gross domestic product of the trading partner; Popni is the population of AMS; Popnj is the population of the trading partner; Distij is the geographical distance between the two countries (measured as the nautical miles between them); RERij is the bilateral real exchange rate between the two countries (calculated as the nominal bilateral exchange rate multiplied by the ratio of the domestic country's CPI to the trading partner's CPI); CLMVi is a dummy variable to account for whether country i is part of the CLMV member states; CLMVi is a dummy variable to account for whether partner country j is part of the CLMV member states; TradTimeExij is the trading time to export from country i to country j (measured in number of days to process exports); TradTimeImij is the trading time to import to country i from country j (measured in number of days to process imports); TradDocExij is the number of trading documents necessary to export from country i to country j; TradDocImij is the number of trading documents necessary to import to country i from country j.

GDP variables are included to capture the factors that could reflect the level of economic development in the nations that would most likely lead to positive coefficients. The population variables are included to take into account the size of the economies; smaller populations may cause more trade since the domestic market may not be able to meet demand (absorption effect), although larger populations may offer more trading opportunities in a wider variety of goods (economies of scale) such that the coefficients for the populations are ambiguous. The distance, as the usual proxy for transportation costs and time, is assumed to be a barrier to trade that will have an inverse relation to any of the trade measurements. Also, representing restraining factors in trade, trading time and trading documents (within port) are proxies for access to markets and are expected to have negative coefficients. Depreciation in the domestic economy (increase in the real exchange rate) is expected to increase exports while appreciation (decrease in the real exchange rate) in the trading partner's economy is expected to lead to increased imports, thus the coefficients for the real exchange rate are expected to be positive for exports and negative for imports. The dummy variables relating to the CLMV nations will allow a direct comparison of trade values between the ASEAN6 and the newer CLMV blocs.

In the end, factors affecting the trade among the AMS can be compared as to whether they have differential impacts among the ASEAN6 and the CLMV member states. In addition, variables both inside and outside government control can be analyzed. From there, strategies to minimize negative impacts and actions to capitalize on benefits and opportunities are proposed.

III. Results

To properly situate the estimations to be done with the augmented gravity models, a comparison of the summary statistics[4] for the macroeconomic indicators of interest between the ASEAN6 members states (Brunei, Indonesia, Malaysia, Philippines, Singapore, and Thailand) and CLMV members (Cambodia, Lao PDR, Myanmar, and Viet Nam) are provided in Table

[4] Data, except for population figures, were derived from the World Development Indicatiors of The World Bank. Population statistics were derived from the statistical database of the Food and Agriculture Organization of the United Nations.

1. As the figures show, there is a divide between the performances of the member states of the ASEAN6 and the CLMV blocs.

Based on statistics provided to international agencies, average production in the ASEAN6 bloc was more than six times as large annually as the average production of Cambodia and Vietnam from 2001 to 2013, although the discrepancy decreased to about fivefold in 2013. This is not surprising considering that average populations in ASEAN6 nations were twice as large as those of the CLMV states over the period 2001-2013, with the difference in populations increasing at a decreasing rate due to decreasing population growth in the ASEAN6 bloc and increasing population growth in the CMLV bloc.

Table 1. Comparative Statistics of ASEAN6 and CLMV Member States, Average per Bloc, Average Values in 2013 and Average Growth for 2001- 2013

Indicator	ASEAN6		CLMV	
	Value	Growth[a]	Value	Growth[a]
Gross Domestic Product (US$) [b]	359,017,179,755	12.46 %	65,927,564,140	14.13 %
Population (in thousands)	676,227	1.38 %	375,399	0.97 %
Export Values (US$) [b]	47,189,714,227	13.24 %	9,938,942,084	19.68 %
Import Values (US$) [b]	39,838,654,924	13.07 %	12,059,670,075	18.63 %
Total Trade Values (US$) [b]	87,028,369,151	13.15 %	21,998,612,159	17.85 %
Real Exchange Rate [c]	418.43	5.47 %	2,233.29	7.65 %
Export Trading Time (number of days) [d]	13.67	(2.09 %)	22.75	(6.86 %)
Import Trading Time (number of days) [d]	12.83	(2.80 %)	24.50	(7.67 %)
Number of Required Export Documents [d]	4.50	(1.75%)	8.00	(0.69 %)
Number of Required Import Documents [d]	5.33	(3.26 %)	9.00	(2.71 %)

Note: [a]Growth rates in parentheses represent negative values; [b]CLMV values for Cambodia and Vietnam only; [c]Measured as (Domestic Currency in US$/Foreign Currency in US$) X (Domestic CPI/Foreign CPI); [d]Averages for 2005-2013 only.

In terms of trade values, it is apparent that there is a wide disparity in the values of intra-ASEAN exports and imports between the blocs. Although the disproportion has been decreasing in recent years, as shown by the proportions for 2013, the ASEAN6 was exporting eight times and was importing four times that of the CLMV bloc on average over the period of 2001-2013. A hopeful sign is that growth of these trade values has been faster in the CLMV bloc compared to the ASEAN6 bloc, which may indicate a benefit of the closer integration that the former has gained from their accession into the ASEAN. Moreover, the depreciation of real exchange rates in the CLMV has been faster than for the ASEAN6, which could also be contributing to this faster growth. Greater openness being practiced by the CLMV bloc can be discerned as well from the higher average growth rate of total trade values for the bloc. Based on other calculations, the growth rate of the average growth rate of export values in the CLMV bloc has been twice as fast as that for the ASEAN6, while the average growth rate of import values has been about 20% higher in the CLMV bloc.

In addition, efforts toward greater openness among all AMSs can also be implied by the negative growth in the measures of trading costs. As the results show, the average numbers of days and documents required in trading have been decreasing for both blocs since 2001. It should be observed that the AMSs in both blocs have seemingly been putting more effort into reducing the processing time for the exit of exports and the entry of imports compared to reducing the documentary requirements. More importantly, it can be observed that there are less documentary requirements that will allow the exit of domestic goods from trading AMSs than those that will allow the entry of foreign goods in these member states, which could indicate greater concern with ensuring the legitimacy of imports.

In illustrating these differences between the two ASEAN blocs, it thus becomes interesting to look deeper into how these indicators relate to trade in the

region. Augmented gravity models for changes in the different trade values (exports, imports, and total trade) are run to provide more detail on the trade impacts of these different economic attractors and barriers.

To determine if the random effects model effectively estimates the necessary coefficients, a Breusch-Pagan Lagrangian Multiplier test was run for each of the identified models. The results as shown in Table 2 indicate that panel effects are present and that there are significant differences across units in the panel (significant at 1% for all models), necessitating the use of random effects estimations. Thus, the equation for each trade value is run as a random effects model.

Table 2. Results of Breusch-Pagan Lagrangian Multiplier Tests for Random Effects Models

Dependent Variable	Chi-square	P-value
Exports	555.59	0.0000
Imports	697.78	0.0000
Total Trade	473.17	0.0000

Table 3. Results of Random Effects Model Estimations

Independent Variable	Dependent Variable		
	Exports	Imports	Total Trade
Own GDP	0.5512234***	0.6341784***	0.3952701**
	(2.74)	(2.89)	(2.34)
Partner GDP	0.516556***	0.5223714***	0.5757238***
	(2.75)	(2.63)	(3.69)
Own Population	0.5478825***	0.3574815*	0.4945444***
	(3.12)	(1.91)	(3.40)
Partner Population	0.296081*	0.3423687*	0.2363434*
	(1.72)	(1.89)	(1.66)
Distance	-1.372025***	-1.592552***	-1.380705***
	(-3.19)	(-3.67)	(-3.94)
Real Exchange Rate	-0.0568389	-0.019178	-0.0497179
	(-0.81)	(-0.25)	(-0.82)
CLMV as Exporter	-1.472888**	-0.5808131	-1.033468*
	(-2.07)	(-0.81)	(-1.77)
CLMV as Importer	-1.085091	-1.712769**	-1.150924*
	(-1.53)	(-2.33)	(-1.95)
Export Trading Time	-0.6672082**		-0.3521305
	(-0.011)		(-0.71)
Import Trading Time		-0.0787334	-0.419592
		(-0.25)	(-0.92)
Export Trading Documents	-0.2029227		-1.18862***
	(-0.67)		(-2.71)
Import Documents		0.0496472	1.065219***
		(0.17)	(2.66)
Constant	-3.458199	-5.100917	0.9223835
	(-0.81)	(-1.15)	(0.26)
R-Squared (overall)	0.6676	0.5788	0.7069
Wald chi-squared	326.45	215.71	371.28
Prob > chi-squared	0.0000	0.0000	0.0000

Note: Numbers in parentheses represent z-values; *significant at 10%; **significant at 5%; ***significant at 1%.

The coefficients estimated for the independent variables of each gravity model are presented in Table 3. As the results show, the coefficients for the real exchange rate were not found to be significant in all models. On the other hand, the coefficients that were found to be significant exhibit the expected signs and are discussed individually in the sections that follow.

Coefficients for the output variables indicate that increased output in the trading AMS (GDP_O) increases all its trade values and the same can be said for increased output in its trading partner (GDP_P). For the

case of exports, these results imply that the greater demand engendered by increased incomes in an ASEAN trading partner encourages increased export values for the trading AMS. At the same time, greater production in the trading AMS seems to allow for more output to be exported. The converse can be said to hold true for the case of imports. In terms of openness, increased outputs in both the trading AMS and its partner seems to stimulate increased total trade values, which can be interpreted to mean that ASEAN economies become more open to trade with increased incomes.

In the same way, the coefficient estimates for increases in the population of the trading AMS and that of its trading partner indicate that both would increase all trade values for the trading AMS. This could indicate that exports increase with greater labor resources because the absorption effect (that is, that a larger country would export less) is outdone by the economies of scale prompted by the larger populations (Martinez-Zarzoso, 2003). A similar related argument can be made in the case of imports such that more imports can be absorbed by a trading AMS with an increasing population from trading partners with a greater resource base to produce more goods that can be exported. Moreover, changes in populations also seem to directly influence the trade openness of the trading AMS, with total trade values increasing with increasing populations in both the trading AMS and its partner.

On the other hand, coefficients of variables included to proxy for trading costs and found to be significant generally demonstrate the expected inverse relation to the trade values of the trading AMS. For one, increasing distance was found to significantly discourage exports, imports, and total trade among the AMSs as expected, although it seems to decrease imports more than exports. In addition, as the coefficients imply, a decrease in the number of days of export trading time increases export values while a reduction in the number of documents required for exporting increases total trade among AMS. One exception is the positive influence of increased import documentary requirements on total trade values. This, however, could indicate that documents necessary for the entry of foreign goods into domestic markets are not considered less as trading costs, but are otherwise possibly seen as assurances of the legitimacy of imported goods in terms of regulatory compliance (e.g. certificates of origin), safety standards, and the like.

Finally, as the primary concern of this study, the estimates show that changes in trade values are smaller for the CLMV bloc than for the ASEAN6. Increases in export values are smaller for exports from CLMV economies while the increases in import values are smaller when originating from the CLMV bloc. Although this may seem counterintuitive to the trends in the growth rates of these trade flows discussed earlier, it must be noted that the relatively smaller changes indicated here are in level values such that the faster growth rates of CLMV trade flows arise from the smaller average trade base of the CLMV bloc relative to the ASEAN6. Moreover, the smaller and less significant negative coefficients derived for these variables in relation to total trade may indicate that the disparity between the trade openness of the CLMV nations and ASEAN6 economies is decreasing, similar to the observation made in regard to the differences in the average growth rates of total trade values for these two blocs.

IV. Conclusion and Implications

In light of the more recent accession into the ASEAN of Cambodia, Lao PDR, Myanmar, and Vietnam (CLMV) as well as the advent of the ASEAN Economic Community (AEC), a development gap between the CLMV bloc and the more established ASEAN6 (Brunei Darussalam, Indonesia, Malaysia, Philippines, Singapore, and Thailand) members has been observed. Thus, this study endeavored to analyze the factors that affect intra-ASEAN trade in order to compare the bloc of charter AMS of the ASEAN including Brunei (ASEAN6) and the bloc of the newer CLMV member nations. By presenting the differences in the trade flows and macroeconomic performance of

the ASEAN6 economies and the CLMV member states through trend analyses and gravity models of trade, the study results provide indications of possible policy directions in line with the objectives of the AEC.

Based on the results of the study, the ASEAN6 can be considered larger economies in terms of output, population, and trade flows, although CLMV indicators have been growing at relatively faster rates in recent years. In addition, the ASEAN6 continue to be more open, although CLMV has shown more effort in opening up their economies. Similarly, real exchange rates are more competitive in the CLMV and are depreciating at a faster pace, which may be significant not only for intra-ASEAN trade but more particularly for trade outside the region.

More importantly, it was found that the AMSs have been exerting efforts to reduce trading costs in terms of processing time and documentary requirements although the focus has been more on time than on documents. Fortunately, the rate at which the CLMV bloc is reducing trading times is higher, probably due to the relatively longer processing times.

In relation to the estimates derived from the gravity models of trade, and consistent with expected results of previous trade studies, the growth in the GDP values and populations of trading countries and their partners do seem to attract greater trade flows. On the other hand, barriers to trade such as distance and trading costs (as demonstrated by trading times and documentary requirements, particularly for exports) are found to have inverse relations to the increase in trade values.

Specific to this study, in line with contributing to the augmentation of the basic gravity model, import documentary requirements were found to act as attractors for increased trade openness, probably due to the signal that these provide in terms of the legitimacy of foreign goods entering the domestic markets. Additionally, it was found that there is a significant difference between the trade values of the CLMV and the ASEAN6 blocs, where changes in the levels for the former are definitely lower than for the latter.

Based on these observed effects, the following implications for policy interventions in line with the AEC can be identified. For one, CLMV efforts to heighten trading activity are evident but still need to be further hastened to close the gap with the ASEAN6.

On the one hand, the CLMV bloc should maintain the momentum of rapid production growth rates, which can be augmented by the technology transfers, cooperative capacity-building, and adoption of best practices identified as key strategic areas of action in the AEC. From another perspective, in terms of trade facilitation, the CLMV nations need to further hasten the removal of non-tariff barriers to catch up to the ASEAN6, which can be partially addressed by the harmonization of product standards and certifications engendered by the AEC, such as the establishment of National Single Windows and Rules of Origin. Moreover, efforts of the CLMV to increase trade among AMS and to further open up their economies to trade in general may be hastened by the eventual removal of tariffs that are still being imposed in selected industries.

Finally, differences in the average real exchange rates of the CLMV and ASEAN6 blocs, although not found to be significant in determining intra-ASEAN trade flows in this study, may figure significantly when trade flows outside the region are considered. On the one hand, widely disparate values of exchange between the CLMV and ASEAN6 blocs could have negative repercussions on the trading of the ASEAN as a single regional bloc as envisioned in the single market and production base being promoted under AEC. On the other hand, this difference in real exchange rates could potentially allow the CLMV to catch up to the ASEAN6 economies through relatively greater trade outside the region.

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Frances Kellor's Bureaucratic Social Capital Model and the Implications for Korean Arbitration

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ABSTRACT

This paper considers the restraints that culture places on arbitration in order to add nuance to discussions of Korea's place in global arbitration and branding. To this end, it analyzes the work of one of the founders of global arbitration, Frances A. Kellor (1873 – 1952) in order to distinguish between 'bureaucratic social capital' and 'cultural social capital.' Additionally, the contrast between the domestic and global aims she set for arbitration and current realities will be used to highlight the limits of culturally-neutral arbitration models. In explaining her failures, this work will utilize social capital and bio-social research. Current cultural barriers in global arbitration will then be compared with the predictions of bio-socially informed cultural social capital models. The analysis models utilized herein suggest that Korean arbitration associations should emphasize the 'Korean' or 'Asian' characteristic of their services, and downplay their 'global' nature.

Keywords: Frances Kellor, American arbitration history, Korean arbitration
JEL Classifications: B15, F52, N40

I. Introduction

Frances Alice Kellor (1873-1952) helped found the American Arbitration Association (AAA) in 1926. She then served as its only Vice-President until her death. In doing so, she greatly furthered the machinery of international arbitration. Historians, however, mostly know Kellor as the head of the Americanization Movement that greeted the surge of immigrants that came to New York around the beginning of the twentieth century. In this capacity, she launched an Americanization journal, successfully held massive parades across America as a part of her new Americanization Day holiday, started many bureaucracies that protected immigrants, funded and coordinated the national Americanization Movement via a Federal bureaucracy, arbitrated labor disputes, ran America's foreign media advertising, passed abundant legislation protecting immigrants and more.

Kellor received her law degree from Cornell in 1897 and undertook graduate studies in criminal sociology at the University of Chicago beginning in 1898. Befitting her being a lawyer and training as a sociologist, Kellor implemented her ideals in laws and institutions. Thematically, her work aimed to foster group cohesion via involving immigrants, long-term Americans, politicians and industry in shared political

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action aimed at social justice. That is, her efforts aimed to foster the social connections between people that sociologists call 'social capital.' For example, each July 4th, in her Americanization Day event, she got long-term Americans to celebrate parading newly naturalized immigrants. A common description of social capital refers to the number of social connections a person has via friends, family or organizations. By literally putting immigrants and long-term Americans in the same space, she hoped to increase their shared social capital. She repeatedly bragged that an immigrant had told her that the Americanization Day event was the first time he had actually met a long-term American.

Social capital has been defined and measured in different ways. One major social capital theorist, Harvard's Robert Putnam, not only measures it according to social connections, but equates it with shared norms. He has deemed it a synonym for shared trust (Putnam, 2007). Measures of Korean social capital (in terms of trust) have shown it to be strong locally and weak collectively. This is also typical of Asian nations more generally. Social capital has been shown to significantly contribute to social boons ranging from individual health to national economic development. Unfortunately, there have been few studies of Korean social capital. Moreover, I have found no instance wherein the social capital literature has made use of the emerging bio-social literature. Among other topics, the bio-social literature looks at the mechanisms which create social bonding. As a tool of social analysis, social capital has not yet reached its limits.

The bio-social literature tells us that we have evolved to have intra-group altruism and inter-group hostility (Wilson, 2015). Much of this literature details which cultural markers separate groups and then ties these findings to animal research and neuroscience. For example, accents separate bird populations from each other. They also distinguish human groups. Colors distinguish between animals; humans have flags. Spectators who watch their color-identified sports team win have more erect posture and serotonin. And, unique to humans, shared historical narratives facilitate group bonding. In summary, this literature tells us that culture identification has deep roots in human nature. This is relevant to arbitrators in that arbitration works to surmount these very cultural gaps. Noting that cultural factors demark distinctions has bearing on whether Korea arbitration should brand itself as 'Korean', 'Asian', or 'global.'

Kellor's career in arbitration worked to erase cultural distinctions with the aim of bringing about world governance and world peace. To this end, she purposely ignored culture. This paper will designate Kellor's culturally-neutral style of social capital, 'bureaucratic social capital.' This type of social capital will be contrasted with 'cultural social capital.' Bureaucratic social capital refers to pure affiliation with no overarching cultural connection. For example, the immigrants in Kellor's Americanization Day parades marched in their traditional costumes. They had no common cultural markers such as language to bond them. Cultural social capital relies not only on affiliation, but the shared cultural markers. If Kellor had asked the immigrants to leave their traditional costumes behind and march in American clothes, under an American flag, in celebration of American history, she would have been attempting to inculcate cultural social capital.

In promulgating bureaucratic social capital, Kellor took the same culturally-neutral stance that today's multiculturalists assume. They hope we can create trust and social networks - social capital - while our clothes, languages, accents, narratives etc. remain distinct. But, Putnam found that cultural diversity actually reduces social capital. In diverse neighborhoods people tend to 'hunker down;' they have less trust (even in their own race), less community cooperation and fewer friends (Putnam, 2007). This augurs poorly for multiculturalism. A culturally-neutral bureaucratic social capital also undergirds the hopes for global arbitration. It asks that culturally diverse participants put aside their cultural affiliations during the arbitration process. Yet, to this day, choice of venue and the language of arbitration constitute two of the most contentious issues in

arbitration. Kellor's culturally-neutral schemes for domestic and global unity are being tested in today's international arbitration arena.

II. Background Information

2.1. Kellor's Americanization Theory

Kellor was the government official in charge of greeting the surge of immigrants that came to New York City in the early twentieth century. Various dangers awaited these immigrants. Swindlers sold the new immigrants forged steamship tickets. False banks proliferated that took immigrants money. Supposed real estate agents also swindled immigrants. Kellor's legal teams passed many laws to remedy these and other abuses of immigrants. Kellor thought her protective laws and educational endeavors intrinsically valuable. But, psychological goals also informed her purposes. These laws were to show immigrants that "the new country is interested in him as an individual" (Kellor, 1911, p.9). Thus, in addition to stopping abuses, Kellor's protective efforts aimed to create social capital between the American government and immigrants.

Kellor's technique of coordinating pre-existing groups, rather than replacing them also aimed at social capital. Each of her Americanization, civil rights and arbitration organizations were formed by merging and supporting pre-existing groups. In regards to Americanization, she lamented to that "Something like fifty or one hundred different organizations are doing work with reference to naturalization, but there is no connection between these different organizations, no standard of work, and no method by which one organization may know what the other is doing" (F. Kellor, personal quotation, March 2, 1912). Her organizations coordinated educators and lawyers as well as private institutions and government organizations. This was strategic. She understood that cooperation creates social capital and this creates power. Incongruously, while she standardized groups' vocabulary and reporting, she never sought to standardize immigrants culturally.

Kellor's Americanization work almost entirely ignored culture in its efforts to forge social capital. The Americanization curriculum she wrote for New York State and the Federal government almost entirely omitted American heroes, history and English instruction. Rather, her Americanization curriculum told teachers, "*Do not only talk* about community life but get your students to think along lines of civic betterment. Suggest to them that they report unsanitary conditions to the health department." By doing so "he will not only obey the laws but be deeply concerned in the enforcement and enactment of good legislation" (Research Department of the Committee for Immigrants, 1916, p.4). Her Americanization curriculum aimed at uniting immigrants, long-term Americans and the American government by collectively involving them in culturally-neutral bureaucratic civic reform efforts.

Kellor's transition from full-time Americanization to full-time arbitration work illustrates her ideals and blindness. In her last book on immigrants she claimed we needed to drop the word 'immigrant' in favor of the term "international human being" (Kellor, 1921, p.80). This was quite an argument for the head of the Americanization movement! Migration, she foresaw, would continuously rise and national affiliation would decline. Therefore, she proposed treaties be amended to give international citizenship which shall be good the world over. In claiming any people could be citizens of any nation and in advocating uniform global laws, she ignored the import of cultural distinctions and sought to erode national affiliation. Herein we see how the culturally-neutral nature of her Americanization work informed her globalism.

2.2. Arbitration Begins

In 1921, when Kellor was forty-eight years old, having spent nearly twenty years in Americanization, a Federal law greatly restricted immigration – making her Americanization work moot. With immigration restriction America rejected globalism. But, despite the

rebuff, Kellor continued promoting globalism by writing a two-volume analysis of the League of Nations, Security Against War. The book argued that the League's security council's usurping the authority of the Permanent Court of Arbitration (PCA) made arbitration reflect political questions not constitutional questions. The politicization of international arbitration, she documented, made it a tool of conflicting powers. Solely utilizing the (supposedly) culturally-neutral PCA for arbitration could provide security against war. As in her Americanization work, her advocating impartiality in international arbitration attempted to increase cooperation by ignoring cultural divisions.

Kellor was one of ten people who oversaw the merger of two pre-existing groups that created the AAA. As its Vice-President, she distinguished her group via its infrastructure. The arbitration courts prior to hers met sporadically. Under her guidance, the AAA set up a system for administration of tribunals, coordinated a national network of facilities, compiled lists of available arbiters, and standardized codes and training for continuity. Then, with the AAA, Kellor constructed a twenty-two nation arbitration treaty. In the year before her death, eleven governments recognized the arbitration guidelines Kellor helped craft. That same year her organization helped arbitrate conflicts between forty seven countries including six major European countries, six Middle Eastern ones, Japan, and several colonial possessions. Whatever the limits of her vision, while she failed to unify America domestically, she greatly advanced arbitration's proliferation.

III. Analysis Contents

3.1. Kellor's Dreams of Unity Via Arbitration

Beyond settling particular cases, Kellor aimed to create industrial and economic harmony (social capital) via arbitration. She called her volunteering arbiters, the "commercial peace officers of the nation" (Kellor, 1948, p.31). Using religious language in giving businessmen credit for the AAA's creation, Kellor chimed, "The business man has gone on constructing his edifice of peace and working out his own salvation through the self-regulation of industry." Kellor hoped to hear a businessman say, "Well, if Harry Smith our busiest banker, will take his time to straighten out our troubles for nothing, it's up to me to straighten them out without bothering him" (Kellor, 1930, p.3). Kellor considered arbitration "the one proceeding adapted to an industrial society which wishes to govern itself wisely and justly and to render what is the just due of all its members" (Kellor, 1934, p.6). More than the outcome of any particular arbitration, Kellor prized arbitration because it could instill cooperative altruism in participants.

Kellor's 1934 book, Arbitration in the New Industrial Society, provides an optimistic portrait of arbitration's potential. It opens with a chapter on 'market goodwill.' Market good will is a synonym for social capital. In fact, she labeled the amount of cooperation between the government and industry, 'national capital goodwill' [emphasis mine]. Kellor wrote, "A country is immensely more tranquil and secure that builds up reserves of goodwill and good faith among its people." This is true. And, she argued, "the cultivation of the spirit of arbitration as an American way of life makes for a strong nation of happy individuals and of cooperative organizations" (Kellor, 1948, p.122). Kellor hoped a domestic bureaucratic arbitration infrastructure would foster 'national capital goodwill.'

Indirectly, however, the 1934 book acknowledged that the mechanics of bureaucratic social capital alone would have trouble overcoming social divisions. Kellor's book described how, with her usual technique of coordinating pre-existing groups to increase bureaucratic social capital, Franklin Roosevelt's National Industrial Recovery Act made a national arbitration system by coordinating the pre-existing Trade Associations. Each industrial association was to draw up codes for their industries that outlined fair labor, competition, and production standards. Her AAA was to solve disputes between these competing businesses, labor and management using these codes.

But, acknowledging that bureaucracy alone might not erase interests, Kellor's book announced that, if trade associations could not agree on codes to guide their industry themselves the Federal government would intervene and create and enforce codes for them. Bureaucratic capital alone would not suffice.

Arbitration, Kellor thought, could also create global harmony. She signed the agreement that united twenty-two nations on behalf of the AAA. Later, in 1943, along with the Chamber of Commerce, the AAA created the Canadian-American Commercial Arbitration Commission. She eventually developed a twelve-part vision of universal commercial arbitration that she ended by noting that disputes' "systematic settlement, through a science of arbitration designed to avoid the mounting menace of conflict, is a part of the realization of a vision of universal arbitration" (Kellor, 1948, p.159). She hoped the AAA would aid the, "construction of a science that might one day help to bring peace and tranquility within the nation and security against war" (Kellor, 1948, p.53). But, hints of chasms loomed on the horizon. Kellor worked towards creating an arbitration agreement with China. But these efforts fell short as the Chinese government wanted to first establish its own arbitration organization so that it could negotiate with its own coherent arbitration strategy in place.

As a member of the executive board of the Pan American Union, Kellor promoted arbitration and better economic relations between North and South America. But going farther, Kellor announced that her new international system, "bridges the differences created by diverse languages, customs, and traditions" (Kellor, 1948, p.143). Arbitration would erase cultural division. Even after World War II, she hoped that arbitration would serve as a "counterbalance to the organized forces of destruction let loose through conflict and war" (Kellor, 1948, p.58). She wrote, "The American Arbitration Association knows that a way to international peace and security lies through world trade by the organization of international systems of arbitration" (Kellor, 1948, p.157). And, strategically, this tactic is logical: it unites economic systems before approaching cultural clashes. It thus acknowledges that cultivating bureaucratic social capital is easier than creating cultural social capital. As such the strategy implicitly acknowledges that cultural social capital might thwart broaching international barriers.

3.2. Barriers in Global Arbitration's Permeation

Unfortunately, recent studies have shown that cultural divisions still thwart the unifying potential of arbitration. Ilhyung Lee created a hypothetical arbitration case between a Korean business and a Japanese one. Seventeen of the nineteen Korean arbiters she surveyed said they would object to a Japanese arbiter in such a situation. Twelve of seventeen said they would object to a White American arbiter who had been living in Japan. Fourteen of nineteen lawyers said they would object to a person of Japanese descent, born and raised in the United States. And, ten of nineteen would object to an arbiter with a Japanese spouse (Lee, 2007). Nationalism (a form of cultural social capital) continues to influence international lawyers' perspectives. And, legally, an arbiter should suspect such appointments, because nationality's impact on arbiter's neutrality could add grounds for setting aside an award.

And the fissures between cultural blocks can be sharp. Islamic Law and Islamic policy have a much larger scope of public policy exceptions in the realm of public interest considerations (Al-zarraa, 2013). The Committee for Economic and Commercial Cooperation of the Organization of Islamic Cooperation was launched to smooth intercultural disputes between Islamic finance law and other cultures' law. A sharia board must approve arbitration in some Muslim nations and a Qatari lower court set aside a French International Chamber of Commerce award because it had not been "issued in the name of H. H. the Emir (Al-zarraa, 2013)." And, there have been incidents wherein western arbiters could not but express their condescension towards sharia law, such as when a judge snidely noted its lack of "precise rules for mining and oil concessions" (Hussain, 2013, p.16). In order to attract business, Singapore International Arbitration

Centre (SIAC) advertises their understanding of Islamic finance transaction laws. SIAC does this because the lack of lawyers who understand Sharia compliant financing constitutes a limiting factor in cross-cultural communication.

Moreover, beyond purely cultural divisions, economic divisions can feed alternative interpretations of arbitration awards. Poorer nations often see arbitration as an extension of neo-colonialism. Rather than impartial, bias is supposedly, "embodied in its sole focus on investor protection, its non-engagement with the impact of investor activity on the local communities and environment of the host state." (Miles, 2009). Activists complain, "There is no avenue of recourse under international investment law to address these complaints . . . Its sole focus is investor protection" (Hussain, 2013, p.5). One mapping of arbitration's cultural social capital showed membership the International Centre for Settlement of Investment Disputes is dominated by European nationals and nationals of countries that share history, culture, and traits in their legal system (Puig, 2014). Thus, pure geographic regionalism and economic history are enough to trigger quasi-cultural capital barriers.

The basic assumptions of arbitration are not even culturally-neutral. When the President of Kenya got caught taking a two million dollar bribe he claimed it was part of his Harambee culture. This justification can succeed from the culturally-neutral, multicultural and global vantage points, because therein you respect, while ignoring, cultural divisions. Unfortunately, bribery lowers trust, it lowers social capital. Government corruption rises when as social trust declines. The resulting cynicism facilitates immoral choices in the future. Thus, one man's corruption can undermine belief in a whole society. Multiculturalism tells us to celebrate cultural diversity. But, investors will not make this large a leap of faith. Cultural relativism has its limits. But this does not stop people from prioritizing disparate cultural interpretations over the success of intercultural arbitration.

But whereas cultural factors separate groups, they can also create social capital within regions. An 'Asian way' of arbitration exists. Asian arbitration is grounded in Confucian philosophy and emphasizes harmony and avoiding conflict (Kun, 2013a). Asian judiciaries tend to be unitary in nature: Federal systems are rare (Yeh, 2015). A study showed Chinese arbitrators give harsher penalties in commercial arbitration contract violations than American counterparts. In collectivist cultures, the purpose of punishment is not to shape future behaviors of individuals but, rather, to ensure moral order (Friedman et al., 2007). Asian regionalism has been behind the rise of regional arbitration organizations such as SIAC (Hussain, 2013). Fan Kun summarized, "Even though procedural rules are getting more standardized and less country specific, expectations of the process differ based on culture background of parties or arbitrators" (Kun, 2013b). Just as inter-cultural differences divide peoples, intra-cultural distinctions can unite groups.

IV. Predictions

Social capital and bio-social research predicts that arbitration will be more successful domestically than internationally. We see this domestic cultural pull in the fact that in, almost all Seoul International Dispute Resolution Center (SIDRC) arbitrations involve at least one Korean party. Kellor's dream of culturally-neutral arbitration has not arrived. Furthermore, cultural matters being a more difficult obstacle than purely bureaucratic matters, social capital and bio-social models predict that financial arbitration would predominate over conflict between states. The PCA was specifically started to handle conflict between states, (which would involve cultural factors). But investment treaties now constitute sixty-nine percent of their court docket. In 2014 the PCA only administered ten inter-state arbitrations. Because this is an absolute number and not a percentage of potential global non-financial cases, the inferences are not certain. Yet China's refusal to appear in its PCA arbitration case with the Philippines or accept the results as well as the low arbitration award enforcement levels involving

Islamic nations point towards the intransigent nature of cultural conflicts.

Furthermore, cultural factors being more difficult to overcome than bureaucratic ones, social capital and bio-social models would predict non-financial arbitration would largely work locally. Elections often involve political or social conflicts that are only secondarily financial. The 2014 AAA annual report highlights their negotiations between the City of New York and several of its unions to illustrate the success of their election supervision program. The AAA has not moved from the very New York City offices Kellor first headquartered it in. Thus, these successes are extremely local. The parties live under the same local government, share broad cultures and likely even share accents. Extremely local election supervision being *the* featured non-financial arbitration successes of the AAA conforms to the idea that common culture facilitates contentious arbitration. The AAA non-financial successes being local suggests the difficulty of arbitrating non-financial disputes internationally.

Kellor's techniques sought to overcome cultural divides by fostering procedural bureaucratic social capital. Both the multicultural and globalist models view cultural conflict as weak barriers to arbitration. We see evidence for the arbitration's ability to bridge cultural gaps in the proliferation of trade agreements. But, many of these, such as Association of Southeast Asian Nations and the European Economic Union are within cultural regions. And, they are financial agreements, not cultural agreements. Cultural social capital findings suggest that the distinctions between Asian, Islamic and Western arbitration will persist. In the cases of the widest cultural gulfs and those where hostility is increasing, (such as those between the West and Islamic states), and in cases wherein inter-cultural competition is increasing (such as that between China and the West), cultural social capital models informed by bio-social findings suggest that arbitration will grow increasingly difficulty. Kellor helped start a global experiment in bridging cultural cleavages via creating bureaucratic social capital. We may have reached the limits of arbitration's accommodation.

V. Options & Recommendations for Korean Arbitration

Obviously, Korean arbitration associations should pursue any and all arbitration opportunities that can be found. Yet, not having limitless resources, Korean arbitration organizations seeking expansion must decide how to prioritize their time and money expenditures. In branding efforts, Korean arbitration associations can stress global, regional or domestic efforts. One prominent Korean arbiter announced that for Korean arbitration, "Ultimately, the goal is to have arbitrations that have no nexus in relation to Korean parties or Korean law" (Kanishk, 2013). This globalist vision sees Korea becoming a culturally-neutral global forum. Arguing for regionalism, supporters of the SIDRC point to Seoul's proximity to China, Japan and Russia as a selling point. A social capital model informed by bio-social research and Kellor's failure at creating domestic and international unity all suggest Russia will have more difficulty blending into this geographic grouping. And, these models also suggest that aiming at regional or domestic growth, with a financial arbitration focus, will provide the best returns on investments.

Among Asian nations, Korea has been among the most eager to adopt western-style 'globalist' agendas. Korea was the first country in Asia to adopt the 1985 UNCITRAL Model Law of Arbitration. While very few Asian nations have even signed the 1951 Refugee Convention, Korea proudly signed it and gave citizenship to its first refuge in 2010. In education and immigration Korea has actively sought to adopt the multicultural and globalizing models that Kellor promoted. But, in considering directions for growth and emphasis, global trends merit consideration. In 2011, the China International Economic and Trade Arbitration Commission administered more cases than the AAA. China's overall arbitration case number in 2014 reached one hundred and thirteen thousand, six hundred and sixty-an increase of nine per cent compared to 2013. In terms of growth potential, Korea

should consider aligning itself with Asian, rather than western fortunes.

Regionalism is an attractive option for Korean arbitration. Again, the literature has identified an 'Asian way' of arbitration. It is characterized as hierarchical. Chinese and Korean courts' willingness to intervene in mediation typifies Asian hierarchy. In Asia appeals courts are rarer. In not having a Federal judiciary system, Korea fits Asia's cultural arbitration profile. Asian arbitration decisions are typically short; they contain less of a rationale. Again, herein Korean judicial awards fit this Asian model. Accepting short, final judgments requires cultural social trust. One consistent bio-social finding is that the more similar to others people appear, the more they trust them. Furthermore, Korea and China have historical, cultural and some linguistic ties. The Chinese Taoist symbol even appears on the Korean flag. Thus bio-social research and cultural social capital models suggest Korean arbitration associations' attempts to market itself within the Asian cultural region and increase it use by Chinese parties will meet with success.

Marketing itself as a venue for Asian arbitration requires that Korea consciously differentiate characteristics that are Asian from those that are global. Korea, again, has a unified, rather than a Federal court system. With limited appellate opportunities, threatened arbitrational interference during mediation increases pressure for parties to reach a voluntary agreement (Kwaang, 2006). Korean Commercial Arbitration Board (KCAB) rules aim to have mediation precede arbitration. A KCAB head said this was to keep with "global trends" in Alternative Dispute Resolution (Kun, 2013a, p.149). But, historically and attitudinally, it reflects more of an Asian or Korean style than a global trend. Emphasizing mediation over arbitration and litigation has been traced to Confucian ethics and thousands of years of informal arbitration patterns. American arbitrators are, in particular, much less amenable to mediation. Branding mediation as 'Korean' or 'Asian', rather than 'global', gives Korean arbitration a boutique quality; whereas reflexively calling Korean arbitration 'global' brands Korean arbitration as generic. Korean arbitration associations' branding should consciously appeal to a target market.

China's arbitration caseload has been growing. Its power and growing global standing has certainly emboldened it to flaunt international laws. China has completely ignored the Philippines' territorial PCA arbitration efforts and results. Furthermore, a 2015 Chinese Supreme Court denied enforcement of a KCAB arbitration award because the Korean owned companies were located in China. They held that companies in China with foreign ownership must arbitrate in China. These realpolitik breaches of neutrality could help Korean arbitration associations market themselves as a more trustable alternative Asian arbitration venue than China provides. Alternatively, the perilous nature of Chinese arbitration and that nation's increasing presence in arbitration might also indicate that Korean arbitration associations would be better off stressing domestic growth potentials.

Korea having less special courts and tribunals than other Asian nations constitutes a shortfall that Korean arbitration could fill domestically. But, taking advantage of such domestic opportunities requires that Korea see its peculiarities as local strengths rather than global failings. Korea's legal system utilizes juries much less than western systems. And, some Koreans seek to 'democratize' the judiciary by increasing the prevalence of juries (Kim, 2015). Increasing the use of juries would reduce the amount of potential venues for arbitration. Korean arbitration associations should frame the lack of juries as a marker of Korean cultural social capital (trust) rather than capitulate to the activist's framing it as a failure to reach global (i.e. western) judicial standards. Domestically, Korea's shared ethnicity, language and history, as well as high education levels, bode well for the formation of its cultural social capital (Allum et al., 2010). But in order to preserve such venues for arbitration and increase Korean social capital, Korean arbitration associations must identify and take pride in particularly Korean judicial characteristics.

In utilizing cultural social capital models in order to brand Korean arbitration as Korean, the particularities of Korean social capital need to be considered. The limited literature on Korean social capital suggests that transparencies in rules and rulings would help ameliorate the potentially negative social capital that comes from the appearance of bias innate in the Korean concepts of 'inmaek' and the cliquishness of 'pabol' (Lee, 2015). Furthermore, Korea has particular social situations that culturally sensitive and heavily tailored Korean remedies must address. For example, there has been resentment over only five universities providing the bulk of Korea's judges. It should be explored whether using arbitrators in special courts and tribunals, and thus circumventing the normal judges' authority, might take advantage of the pabol that feeds such resentment. And, without such subtlety, bio-social research tells us that the crudest mode of creating social capital is to create an 'us versus them' situation. This could be done, for example, by noting that juries are legacies of British colonialism in the Asia. Regardless of specifics, Korean arbitration associations should note the peculiarities of Korean social capital and systemic Korean peculiarities when designing domestic branding and marketing strategies.

Korea itself has seen a tremendous growth in arbitration**.** This paper is not suggesting that Korea should withdraw from global arbitration organizations. But, as earlier quotes illustrate, Koreans too often unreflectively label their arbitration 'global.' Korean arbitration associations should strategically consider whether its greatest growth potential lies in pursuing global, regional or domestic cases. Frances Kellor thought procedural, bureaucratic social capital formation techniques could overcome domestic and international cultural divisions. Her failures and current developments in international arbitration suggest we will never have frictionless cross-cultural arbitration. Thus this paper suggests that Korean arbitration associations consider the reality of cultural social capital and the associated findings in bio-social research when strategizing where and how to market their services.

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