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Section 1. Demography

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THE EFFECTS OF INTEGRATING EDUCATIONAL AND HUMAN CAPITAL INVESTMENT TO PROMOTE ECONOMIC DEVELOPMENT: MODELING THE RATE OF RETURN AND ANALYZING STUDENT BENEFITS

Abstract. This paper examines the effects of investing in an educational program that focuses on cognitive and non-cognitive development and the benefits social-economically disadvantaged students obtain. We arrive at conclusions through data collected from the program addressed in the paper as well as results of quantitative summaries of outside literature. This paper finds that investment in such developmental programs for the financially disadvantage yields significant benefits in direct cognitive and non-cognitive abilities, leading to greater success in adulthood. This paper offers uniqueness in its conclusions and data supporting significant benefits revealed during both short term and long term programs. We utilize customized randomization methodology for the selection and grouping of candidates, in order to guarantee to the best of our ability accurate representation. Results of this early childhood educational program suggest an internal return of 35.85%.

Keywords: Economics, Education, Mathematics, Effect sizes, Learning, Investment, Incentives.

1. Introduction

There is continuous debate about how to improve educational outcomes for American children, yet much of the data collected targets strategies (class size, motivators, location) rather than the fundamental skills that students gain. While exploring strategies is important to developing educational programs, there is a lack of focus on the bigger picture of a student from a young age to adulthood. Because of this trend, education is naturally shaped by small indicators of ability at a specific point in a student's life. Unfortunately, using this framework for governmental suggestions as well as benefit predictors are poor indicators of economic success and poverty alleviation. This paper aims at conducting and examining an educational program for socially-economically disadvantaged young children with emphasis on both foundations of cognitive and non-cognitive achievement. This program incorporates deciding factors of adulthood success, overall abilities, and later life decisions.

In order to build the necessary foundation for a better educational system, policymakers and programs ought to examine which skills should be developed and how to incorporate both knowledge and social awareness into a student's education. This paper

models the effects of investing in different aspects of such an educational program and benefits for students.

This early childhood education program for social-economically disadvantaged students is conducted in the Greater Seattle area of Washington state. Beginning at ages 5–8, children were given both cognitive and non-cognitive skills classes 4 days a week in addition to specialized days for improvement tracking and background data collection. We use permutation testing and worst case approximations to validate our estimations for the program.

We calculate Hotelling's multivariate statistics for two samples for our randomization procedures. Our program has a significant internal rate of return at 35.85%, as well as significant treatment effects in cognitive development, non-cognitive development, adulthood economic success, and wage growth.

2. Background and Experimental Design

The experiment was performed with two phases between May 31 to August 5, 2021, centered in the Greater Seattle Area (4.018.598 people) of Washington state. 50 students were taken into consideration for the original sample from housing and family shelters that accurately represent all areas in Greater Seattle (with over 20 miles of distance between each home). Children were 5–8 years old, and data collection began with background information from their parents. Participants received three small-group (5 students per group) cognitive classes per week for the duration of the experiment in the format of online video calling, with an additional testing (Testing and result recording included: CogAT (Cognitive Abilities Test), Wechsler Intelligence Scale for Children (WISC–V), Stanford Binet Intelligence Scales, reading comprehension testing, mathematical skills testing, social sciences/critical thinking testing, and emotional development testing). day every two weeks for progress tracking. Cognitive classes were 1.5 hours each, with a 1-hour follow-up session attached. Every week, financial or objective rewards (Financial incentives delivered by cash (for each family): $20.00 for a week of attendance in lessons, $10.00 for each testing day and demonstrated effort for learning the material. Different rewards are offered for parents and younger children: New Playing Sets, puzzles and games, homeware and furniture, gift cards to eateries and stores) [4] were given to the treated group for the main purpose of testing the effectiveness of economic investment in the rate of return of student benefits. Specific education content was chosen carefully (Among the most widespread and versatile educational tools, tutoring – supplemental one-on-one or small group instruction – has been promoted as an effective method for helping students learn) (Nickow, Oreopoulos, Quan [13]) in order to reach the largest improvement within the given time frame. Participants and their families received social and background follow ups every two weeks, and 100% of the families were surveyed at every checkpoint. Background information collected included age, gender, economic status, parental income, education, status of housing, emotional habits, and parental investment in education. Children received a daily education plan with accordance to their age and grade level as well as the cognitive learning previously described. Students were guaranteed a face-to-face talking session with the researcher once every week.

3. Eligibility Criteria

The pandemic limited face-to-face interviewing with potential families and children, but the digital alternative of interviews allows the same effectiveness in choosing candidates (Digital learning also motivates educators and students to use latest technologies to communicate and deliver and share information with each other) (Tejasvee et al. [15]). In order to qualify for participation in the experiment, children had to (i) be 5–8 years old on the commencement of the first data-collection date; (ii) Be economically disadvantaged in consideration of U.S and Washington State poverty numbers (U.S Federal Poverty Guidelines used to determine financial eligibility for certain federal programs. For a more accurate representation of results within the specific area where candidates are

chosen, this eligibility factor is impacted heavily by housing costs where candidates live); (iii) Be socially disadvantaged without a stable shelter (Households are considered to be cost burdened if they spend more than 30% of their income on housing and severely cost burdened if they spend more than 50% of their income on housing. Cost-burdened households struggle with necessities and utilities (Kushel et al. [12]) In 2014: 83% of households earning less than $15,000 a year were cost burdened. This includes consideration of the number of people per bedroom within the household. Regular bedrooms with 3 or more people is considered burdened, as apartment and small house bedrooms are not designed to comfortably accommodate more than 2 people. A second method of measuring the burden of housing costs is calculating the absolute amount of money left after paying for rent; we consider this factor with the caveat that candidates within this specific experiment may not be in a situation of rental)or have parents with a level of education equal to or lower than community college. (iv) Lack educational resources compared to the average student of the same age (In this program specifically, educational resources are defined by: (i) Previous Schooling with respect to the student's age and respective grade level; (ii) Material resources such as books and online learning opportunities; (iii) Parent input and effort to assist student). Chosen families and children must be open to accepting money or small gifts, and they must be willing to accept interviews and background data collection. Relative to the average child in the United States, these children were at a disadvantage. Although other factors might have contributed to these children's disadvantage, the primary factors contributing to these children's disadvantage are poverty, lack of educational opportunities, lack of education, lack of stable housing, and difficulty in social interactions. The group of candidates are an accurate representation of those in poverty or require shelter in Washington State.

Children and families are committed to the full duration of the study. During classes and meetings, they are required to refrain from using their electronic devices for other purposes.

This requirement eliminates a potential distraction.

4. Randomization Protocol with Mathematical Models

4.1 Describing the Protocol

It is essential to understand the randomization protocol used to conduct any research. Before conducting randomization procedures, background information was tabulated into a spreadsheet program for organization. At the end of the first step, all 50 students were listed in the same manner on one platform, ready to be randomized.

Tentative treatment and control groups were created by simple random assignment. Then, these tentative groups were checked for balance on socioeconomic status (SES), gender, race, age, previous education, and parental income. If the groups were too imbalanced, the randomization was redone. The first two pairs of tentative treatment and control groups were rejected and the third pair was accepted.

The second step involves the usage of a volatile function RAND for absolute randomization. The first helper column holds random values generated with the RAND function. Subsequently, the second helper column holds numerical values used to sort data, generated with a formula:

= RANK (C5, rand) \+COUNTIF (C5: C5, C5) –1

This formula (By default, RANK will 1 will be associated with the highest value, 2 with the second highest value, and so on. Duplicated numbers are resolved by using the COUNTIF function. We do this by adding the result of this step to the value generated by RANK) backs up the displayed data. Additional information regarding the implementation is recorded in the additional appendix.

The third step is the redraw tentative treatment and control groups until tentative treatment and control groups are balanced. Group were balanced based off of the mean of an index of socioeconomic status (SES), the ratio of boys and girls, the ratio of race, the ratio of age, previous education, and

parental income. Exactly three tentative treatment and control groups were drawn, each with the same randomization method as step two.

The fourth step is moving separated siblings into one group. The only separated siblings were two pairs of siblings. One of these pairs was randomly assigned to the treatment group and the other was randomly assigned to the control group. This step completes the randomization.

5.2 Mathematically Modeling Randomization Procedures

The assignment procedure produced treatment and control groups that are more similar than 79% of treatment and control groups created by simple randomization. We arrive at this conclusion through a simulation. We transformed the data into numerical form using indicators for whether students had attended pre-K, Kindergarten, first grade, and second grade, binary variables for whether the student was Asian, White, Black/African, Hispanic, or Pacific Islander, and a binary variable for whether the student was male. We next generated 1000 random partitions of the data into treatment and control. For each of these partitions, we calculated Hotelling's multivariate two-sample *t*-squared statistic: τ_c^2.

$$\tau_c^2(A,B) = (\bar{Z}_A - \bar{Z}_B)' \left(\frac{1}{|A|}\hat{\Sigma}_A + \frac{1}{|B|}\hat{\Sigma}_B \right) (\bar{Z}_A - \bar{Z}_B)$$

The Hotelling's multivariate two-sample *t*-squared statistic τ_c^2 maps a partition (A, B) of S_c (such that $|A| = \left\lceil \frac{S_c}{2} \right\rceil$ and $B = \left\lfloor \frac{S_c}{2} \right\rfloor$ to $\mathbb{R} \geq 0$ and is given by

where $Z_A = |A|^{\perp} P_{i \in A} Z_i$, where Z_i is a vector containing information about the age, education, race, gender, and family income of participant *i*, $Z_B = |B|^{\perp} P_{i \in B} Z_i$, $\hat{Z}_A = \frac{1}{|A|-1} \sum_{i \in A} (Z_i - \bar{Z}_A)(Z_i - \bar{Z}_A)'$ and $\hat{\Sigma}_B =$

$= \frac{1}{|B|-1} \sum_{i \in B} (Z_i - \bar{Z}_B)(Z_i - \bar{Z}_B)'$.

6. Present Value of Benefits and Costs Determination with Internal Rate of Return

Functions and surveys strongly suggest that enhancing education increases earnings earnings (Studies that estimates were retrieved from: Burkhead et al. [5], William J. et al. [16], Brown [10]). One obvious benefit is that better academic performance prepares students for higher education. Higher education, in turn, results in better job placements and higher earnings in adulthood. With this in mind, the effect of investment in educational resources is most directly modeled with student performance on cognitive tests and evaluations. In order to present the conversion of evaluation scores to potential earnings, functions and models will be utilized.

6.1 The Human Capital Earnings Function

6.1.1 HCEF Framework and Model

The correlation between education and wage determination will be established within the framework of Mincer (1993)'s human capital earnings function (HCEF).

Representative Symbol	Usage
S	Years of Completed Education
X	Years an Individual Worked Since Completing Schooling
e	Statistical Residual

The log of individual earnings (y) in a given time period can be modeled as an addition function of both a linear term for education and a quadratic term for experience:

$$log(y) = a + bS + cX + dX^2 + e \qquad (1)$$

This structural pattern of earnings by age and education had been recorded at least since the early 1950 s (Miller, 1955. P. 64–67) (shows the age distribution of earnings per year for three different education groups and on (i) the concavity of these profiles). The HCEF therefore is successful in utilizing both inductive and deductive reasoning to model accurate results (Mincer's equation acts as an approximation to a generic function,

$$log(y) = F(S,A) + e$$

Since both S and A in the dataset are recorded as discrete, the function $F()$ can be estimated nonpara metrically by including a complete set of dummy variables for all (S, A) pairs or by using smoothing methods non-parametrically, Zheng (1996): formal testing to compare the fit of expanded various versions of (1) to kernel density estimates) in smaller data-sets. Alternatively, higher-order terms have been added to incorporate age/experience and examine the improvement in fit relative to Mincer's original specification, providing an important improvement in fit:

Representative Symbol	Usage
g	Third/Fourth-Order Polynomial

$$log(y) = a = bS + g(X) + e \qquad (2)$$

6.1.2 Brief Discussion of the Education Coefficient

The methodology of modeling earnings (A change in the data collection method of the U.S Census Bureau complicates the calculations, therefore, the sample size was increased because of cross-tabulation) is best represented in logarithmic form. (i) The distribution of logarithmic earnings relates closely to a normal distribution. (ii) The logarithmic transformation shows the success of the semi-log HCEF. (iii) It is fairly convenient for further interpretation.

Representative Symbol	Usage
A	Annual Earnings
w	Hourly Earnings
h	Hours per Week
θ	Weeks

$$A = w \times h \times \theta \qquad (3)$$

Regression of logarithmic annual earnings on education and other controls causes the estimated education coefficient (Educational coefficients of statistical models are usually the educational return. The educational return is generally lower in models that control for potential experience using time not spent in school rather than experience) to be the sum of the education coefficients for parallel models of:

$$w, h, \theta$$

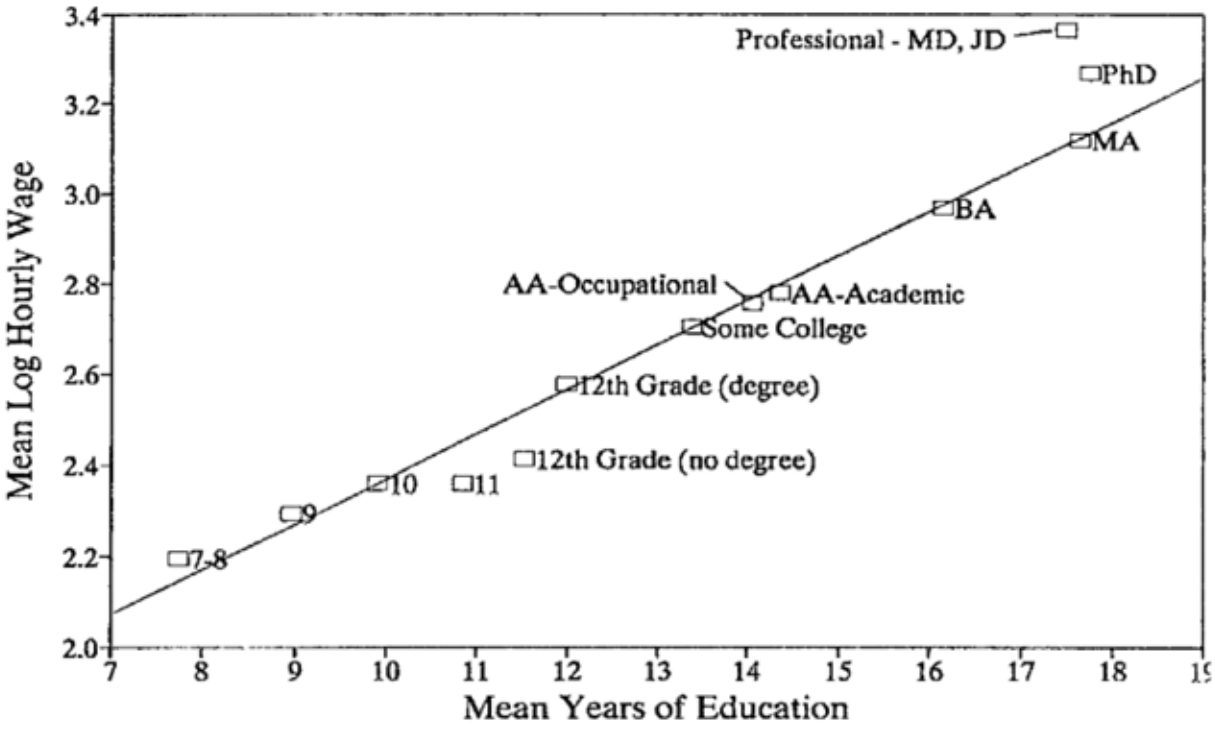

Figure 1. Relationship between Mean log Hourly Wages and Completed Education

Table 1.– Estimated Education Coefficients from HCEF for Men and Women in 2019

	w	*h*	θ	Annual Hours (log)	Annual Earnings (log)
(a) Male					
Education	0.100	0.018	0.025	0.042	0.142
Coefficient	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
R-Squared	0.328	0.182	0.136	0.222	0.403
(b) Female					
Education	0.108	0.020	0.032	0.054	0.163
Coefficient	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
R-Squared	0.252	0.073	0.076	0.112	0.251

6.2 Present Value Benefits and Costs

Because this paper emphasizes the investment perspective, the precision with the timeline of modeling costs and benefits is important. If the research conditions are implemented in current education systems, the cost of hiring additional teachers and obtaining learning spaces are significant. All of this comes with the fact that the benefits are not realized until years later, after current students who benefit from the program join the labor market. In order to show the benefits and costs, we compare the treatment and control groups.

All costs of this program are incurred in a single year. We assume that tutors cost $17.76 per hour. We assume that we spend 4 hours of tutor labor training each tutor. Tutors also spend 14 weeks teaching classes. During each week, they spend 5.5 hours. We assume each tutor teaches 5 students. We also assume that a social worker spends 1 hour per week for 14 weeks supporting a group of 25 students. We assume that the cost of social worker labor is $42.21 an hour. These assumptions imply that each student requires $311.35 of labor.

The rapid and concentrated data collection time fits completely within the year 2021, which means we can somewhat accurately predict additional costs. Figure 3 illustrates the age-earnings profile for workers in 2021. The figure displays average income per year for workers at each age between 18 and 65. Refer to Figure 3, earnings rise before the 40 s, reach the maximum in the early 50 s, and steadily decline in later stages of life. Earnings for students who just joined the labor force will remian low until the 20 s or 30 s. Let E_t represent the average real earnings every year after age 18. Results from the research program indicate that a one standard deviation increase in mathematics or reading performance causes a 14% increase in earnings. We use β to represent the increase in earnings caused by a one standard deviation increase in mathematics or reading test scores and performance.

To compute the IRR, we use age-specific treatment effects on math and reading skill level improvements. Let δ_M denote the improvement in mathematics in standard deviations and let δ_R denote the improvement in reading in standard deviations. It is necessary to discount the annual earnings back to the initial years, because a dollar earned in future years is less valuable than a dollar earned at the current time.

Representative Symbol	Usage
n_w,	Number of Weeks
nh, j	Hours per week Required from Workers of Type j

Two types of workers are required for this program: tutors $(j = t)$ and social workers $(j = s)$. The present value (PV) of costs of the program over a temporary duration of 14 weeks can be calculated by three parts. The primary expense is the payments to the tutors for teaching students:

$$\text{Tutor Wages} = n_w \times n_{h,t} \times 17.76, \qquad (4)$$

where the tutor wage is reasonably assumed to be 17.76 dollars per hour. In this program, the tutor wage can be calculated with respect to every 5 students, resulting in 1367.52 dollars for 14 weeks. A modification can be made to incorporate the cost of training instructors for the program:

$$\text{Tutor Cost} = n_w \times n_{h,t} \times 17.76 + (4 \times 17.76) \quad (5)$$

Therefore, the total tutor cost is 1438.56 dollars. On a per-student basis, the cost will be 281.71 dollars.

The second part considers the necessary work time of social workers with the children when instructors are not present:

$$\text{Social Worker Cost} = n_w \times n_{h,s} \times 42.21 \quad (6)$$

We assume that 1 hour of social worker time per week is required for each group of 25 students. Therefore, the total labor cost is 311.35 dollars per student.

The third part accounts for financial or other forms of rewards given to students and parents. Money or item rewards are a cost to the organization funding the program but a benefit to their receiver which offsets the time and effort costs of learning. Specific financial incentives are discussed in the respective section of the paper.

In the future, I plan to implement a more intensive 4-year program. The present value *(PV)* of the costs for that program given the interest rate *r* is:

$$\text{PV of Costs} = \sum_{t=1}^{4} \frac{C_t}{(1+r)^t}. \quad (7)$$

If a 5-year-old joins the program in the current year,

$$\text{PV of Benefits} = \sum_{t=13}^{60} \frac{E_t \cdot \beta(\delta_M + \delta_R)}{(1+r)^t}. \quad (8)$$

6.3 IRR: Internal Rate of Return

In order to decide whether investments in education programs like the one undertaken in this specific research are worth making, we use the internal rate of return as a direct evaluation. However, we take into account that the IRR is only as accurate as the assumptions that drive it, so we use permutation testing to illustrate the credibility of the IRR.

Representative Symbol	Usage
θ_p^*	estimate for permutation
σ_p^*	associate analitic standard error for permutation
$\hat{\theta}$	original estimate
$\widehat{\sigma}_A$	analitic standard error
R_p	Number of block permutationwithin small groups

In order to test if treatment and control groups have a common outcome distribution with a small sample size, control and treatment labels must be exchangeable. In the context of this program, the experimental labels (wage, gender, race, SES, education) are indeed exchangeable. Since we cannot assume equal distributions, we will utilize studentized test statistics for our permutation testing. Using a simplified testing model that reaches asymptotic validity is suggested by Chung [17] and Heckman [5], we calculate for our *p*-value:

$$\rho P,S = (1+R_P)^{-1}\left[1+\sum_{\rho=1}^{R_P} II\left(\frac{\theta_P^*}{\sigma_\rho^*} \geq \frac{\hat{\theta}}{\widehat{\sigma}_A}\right)\right] \quad (9)$$

Representative Symbol	Usage
$CF_{i,t}$	net pre-tax cash inflow or outflows during a single period *t* for individual *i*
r	IRR that can be earned in alternative investments
t	time period cash flow is received
T	last period of the working life of the treated individuals
n	number of individual cash flows

As background information on the IRR, trustees predict a 1.29 percent annual growth in real wages over the next 30 years (PSID, [14]). We calculate the IRR by solving,

$$0 = \sum_{t=0}^{T} \frac{\sum_{i=1}^{n} CF_{i,t}}{(1+r)^t} \quad (10)$$

Using the earnings data from 2018, data on wage growth between 2018 and 2021, and our projection of the growth rate of real wages, we see a predicted internal rate of return at 35.85%, a significant value.

7. Estimator of Treatment Effects

Representative Symbol	Usage
D_i	treatment status of participant *i*
Z_i	his or her vector of the four pre-program covariates[a]
Y_i	participant's result of interest *i*[b]
Yd_i	participant's counter-factual result *i*[c]
R_i	binary indicator of whether the outcome Y_i is on record[d]

a. Cognitive Performance, index of socioeconomic status, gender, educational background

b. Within a relevant sub-sample P containing $N_P = |P|$ participants.

c. His or her treatment status D_i is fixed at $d \in \{0,10\}$

d. $R_i = 0$ if Y_i is missing and $R_i = 1$ if Y_i is not missing. Additionally, cluster-robust asymptotic standard errors can be used to studentize the estimator given by equation (8), allowing for correlation between error terms (participant siblings).

We estimate the effect of the program treatment with respect to this sub-sample P given by:

$$\bar{\tau} = \frac{1}{N_P} \sum_{i \in P} (Y_i^1 - Y_i^0) \quad (11)$$

Then, using observed data from the treatment:

$$Y_i = D_i Y_i^1 + (1 - D_i) Y_i^0 \quad (12)$$

Proceeding, we will use two different estimation methods: (i) the unconditional differencein-means (UDIM) estimator, (ii)the augmented inverse probability weighting (AIPW) estimator.

Step one estimates the parameter of treatment effect (6) with the UDIM estimator $\widehat{\Pi}_{u\dim}$:

$$\widehat{\Pi}_{u\dim} = \frac{\sum_{i \in P} R_i D_i Y_i}{\sum_{i \in P} R_i D_i} - \frac{\sum_{i \in P} R_i (1 - D_i) Y_i}{\sum_{i \in P} R_i (1 - D_i)} \quad (13)$$

In step two, we assume that D_i (treatment status) is unconditionally independent of the counterfactual outcomes. The randomization process of this specific program justifies unconditional independence, which suggests no further need for a conditional ordinary least squares (COLS) estimator.

Step three takes into consideration that the UDIM estimator assumes non-response as a random factor. In order to accurately model growth and return in adulthood after completion of treatment during childhood, the outcome should not depend on conditions involving non-response and pre-program covariates (R_i, an indicator of whether Y_i is missing, may be dependent on D_i and the pre-program covariates $Z_{i)}$.

Step four uses the augmented inverse probability weighting (AIPW) estimator, allowing for our considerations by using a weaker assumption that $Y_i \perp R_i k D_i Z_i$:

$$\widehat{\Pi}_{aip\omega} = \frac{1}{N_P} \sum_{i \in P} (\hat{\pi}_i^1 - \hat{\pi}_i^0) \quad (14)$$

Here,

$$\hat{\pi}_i^d = \hat{Y}_i^d + \frac{R_i = 1, D_i = d}{\hat{\lambda}_i^d \hat{\phi}_i^d} (Y_i^d - \widehat{Y_i^d}) \quad (15)$$

Representative Symbol	Usage
$\hat{Y}_i^d$	gender-specific ordinary least squares-based estimator[e]

e. With conditional expectation:

$$E[Y_i | Z_i, D_i = d, R_i = 1] \text{ for } d \in \{0,1\}$$

8. Potential Modification: Additional Investment in Developing Non-Cognitive Skills

Representative Symbol	Usage
i	task
t	age
I_{t-1}	Information set based on the come-evaluating agent
$R^a_{j,t}(I_{t-1})$	Anticipated reward per unit effort (activity j, time t)
A_t	Other determinants of effort
u	Vector of parameters characterizing prefences

Because there is considerable evidence of early disadvantage causing difficulty in cognitive and financial growth, this program also serves to target the development of non-cognitive skills: personality, socio-emotional, and character. Performing this modification on children is exponentially more effective due to the greater malleability of personality and character skills.

Investigating treatment effects of investment in non-cognitive skills offers more specific results and discussion. Academics and future schooling relies heavily on cognitive skills, however, future economic contribution and success is equally affected by cognitive and noncognitive abilities. In order to account for both cognitive and non-cognitive skills, this program uses a variety of achievement tests (Refer to the Additional Appendix for detailed explanations of attributes in personality psychology used to design treatment methods of this program).

Vectors of skills at age t can be denoted by θ,

This program allows a model of the age-specific outcome $\Upsilon_{j,t}$,

$$Y_{j,t} = \Psi_{j,t}(\theta_t, e_{j,t}, X_{j,t}),\ j \in 1\ldots, J_t \text{ and } t \in 1,\ldots,T \quad (16)$$

Here, $X_{j,t}$ is the purchased inputs that affect outcomes in vector form. $e_{j,t}$ is effort and it is defined by the supply function,

$$e_{j,t} = \delta_t(\theta_t, A_{j,t}, R^a_{J,t}(I_{t-1}|u)) \quad (17)$$

The above equation encourages analysts to treat the actions of agents as primarily responses to incentives agents face (Mullainathan and Shafir [12]). I also allows non-cognitive factors to influence actions. Enough empirical evidence (Borghans et al. [2; 3]) demonstrates the importance of stable personality and other capacities in performance outcomes.

By controlling for different incentives and situations, we are able to accurately identify capacities. However, there is still difficulty in associating a factor with exact measurements. (define factor) Therefore, we can only identify factors (See Anderson and Rubin (1956) and Williams (2012)). relative to each other (Almlund et al. [2]). Equation (15) allows one to account for how different influence variables affect Υ, showing the effects of investing in non-cognitive development in addition to cognitive improvement. Outcomes affected include but are not limited to: economic success, earnings, education, and various behaviors.

9. Financial Incentives and Effects on Student Education

The motivations considered while designing the methods of this program includes incorporating the impacts of financial incentives and rewards presented to the parents. This section focuses on how incentives and investments factor into student education and future abilities. Recent literature demonstrates how incentives promote learning among students, focusing on the technology of skill formation (Cunha [17]).

Representative Symbol	Usage
θ_t	self productivity and cross effects
$f(t)$	twice continuously differentiable[a]
t	stage of the life cycle
I_t	dimension)

a. increases in all the arguments, concave in I_t

The affects can be modeled by,

$$\theta_t + 1 = f(t)(\theta_t, I_t, \theta P, t) \quad (18)$$

This allows accurate depictions of ability-forming stages and the effectiveness of investments during critical stages in a student's life. The earliest version of this model was developed by Ben-Porath (Browning [10]). The first term of Equation 17 also demonstrates the correlation between non-cognitive and cognitive abilities (one promotes the other). In order to track long term correlations and effects, we model the connection of investments and later life stages of students,

$$\frac{\partial^2 \cdot \theta_{(t+1)}}{\partial \cdot \theta_t \cdot \partial \cdot I_t'} > 0, \text{ At Later Life Stages} \quad (19)$$

As age grows,

$$\frac{\partial^2 \cdot \theta_{(t+1)}}{\partial \cdot \theta_t \cdot \partial \cdot I_t'} \uparrow t \uparrow \quad (20)$$

This model is consistent with other literature in the area, strongly suggesting that investments during younger ages is considerably more effective than at later life stages (Heckman and Kautz, 2014; Knudsen et al, [17]). Here, $I_t \uparrow$, therefore, $\theta_{t+1} \uparrow$. We will account for self-productivity when calculating, $\theta_{t+1} \uparrow \rightarrow \theta_{t+s} \uparrow, s \geq 1$,

$$\frac{\partial^2 \cdot \theta_{(t+s+1)}}{\partial \cdot I_t \cdot \partial \cdot I_{t+s}'} > 0, \quad s \geq 1 \quad (21)$$

Investing during period *t+s* will complement any investment made earlier in period t, proving how investments in early life contributes to later life investments. Here it is shown that investment in economically disadvantaged young children provides just social outcomes and is economically efficient.

10. Financial Incentives and Effects on Parents

In addition to the effects financial incentives have on children, parents are also noted to play an important role. This section of the paper will discuss both the effects parental skills have on students and also how economic incentives affect parent decisions.

Deviating slightly from the models that analyze student effects, parental input can also be placed into the effectiveness model,

$$\frac{\partial^2 \cdot \theta_{(t+1)}}{\partial \cdot \theta_{P,t} \cdot \partial \cdot I_t'} > 0 \quad (22)$$

Outside literature provides evidence that more engaged parents strongly increases the success of investments made (Lareau [2]). Other early childhood programs also notes important results measured by the quality of home environments. Other effects include having more motivation about parenting and fulfilling their role in helping students discover their abilities and character (Cole et al., 2012).

Below, we will discuss the results recorded from this program.

Table 1.– Demographic Sample: (S = 50)

Characteristic Detected	**Result(S%)**	**Mean Value(Standard Deviation)**
1	***2***	***3***
Parent Age	N/A	32.5(8.6)
Mother	39(78.0%)	N/A
Father	11(22.0%)	N/A
Hispanic	6(12.0%)	N/A
Pacific Islander	4(8.00%)	N/A
African American	5(17.24%)	N/A
Other	24(48.00%)	N/A
Less than a high school diploma/GED	15(30.00%)	N/A
High school diploma/GED	19(38.00%)	N/A
Some post-secondary education	16(32.00%)	N/A
Married	11(22.00%)	N/A

1	*2*	*3*
Unmarried, but living with partner	29(58.00%)	N/A
Single	10(20.00%)	N/A
$10,000–$19,999/year	19(38.00%)	N/A
$20,000–$39,999/year	12(24.00%)	N/A
$40,000 or more/year	19(38.00%)	N/A
Full-time	15(30.00%)	N/A
Part-time	7(14.00%)	N/A
School	4(8.00%)	N/A
Not working	24(48.00%)	N/A
No medical care	9(18.00%)	N/A
No dental care	14(28.00%)	N/A

During this program, parents were constantly engaged and received communication in order to track their mindset changes.

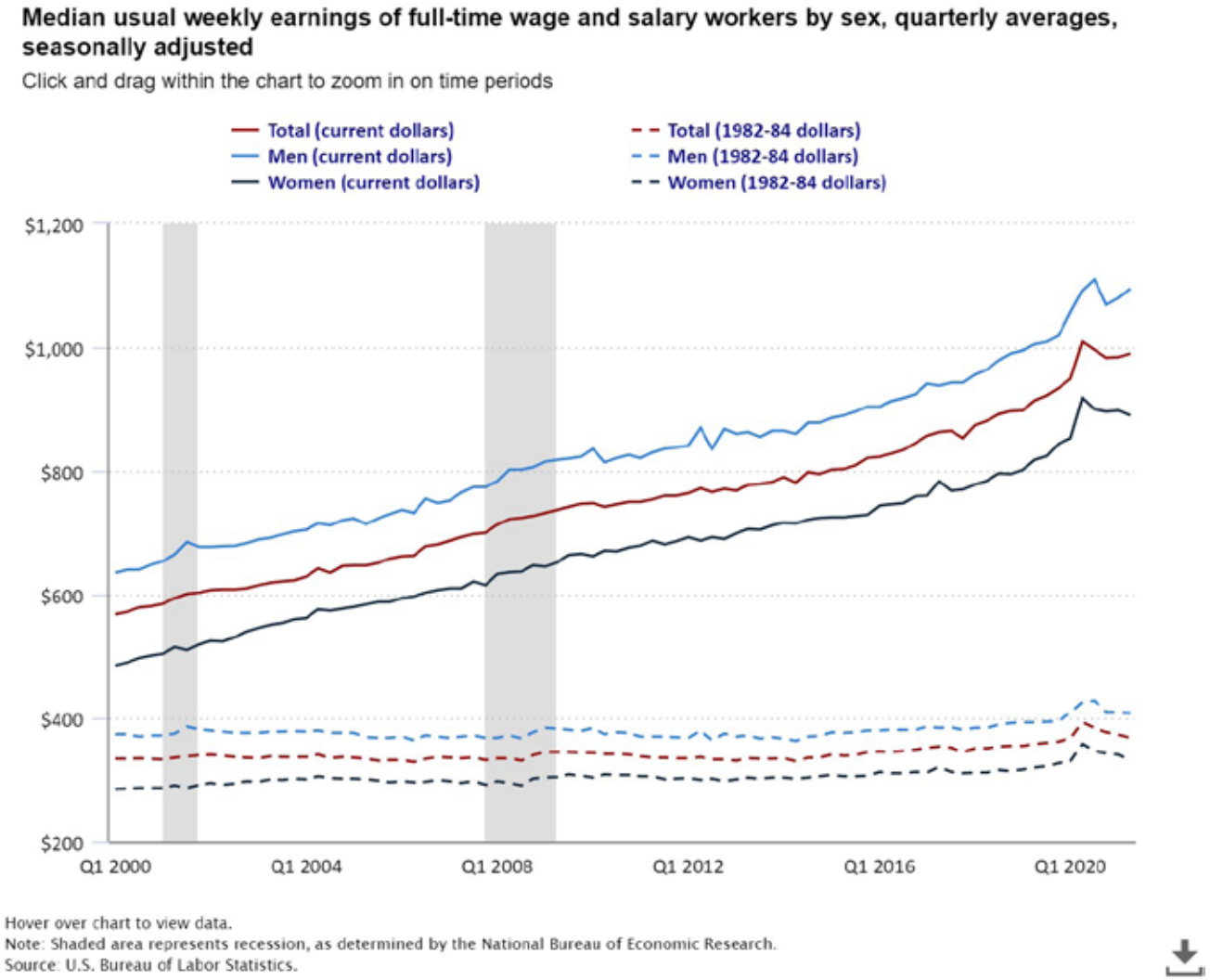

Figure 2.– Parent Response to Financial Incentives After 14 Weeks of the Program

The methodology for measuring parental response is adopted from the PARI (Parental Attitude Research Instrument). The model was estimated by maximum likelihood factors and categorical deciders. A parent who comes out with a larger value believes in the importance of education more (Moon, 2014).

Table 2. – Overview of Effects on Attitudes and Actions of Parents

Variable	Age	Conditional Effect Size	Asymptotic p-values)	Permutation Single p-val
Home Environment	5	0.333	0.003	0.04
Overall Parent Attitude	5	0.288	0.012	0.05
Home Safety	5	0.346	0.004	0.04
Home Environment	6	0.299	0.010	0.03
Overall Parent Attitude	6	0.003	0.012	0.06
Home Safety	6	0.305	0.011	0.05
Home Environment	7	0.276	0.013	0.03
Overall Parent Attitude	7	0.371	0.003	0.05
Home Safety	7	0.289	0.013	0.04
Home Environment	8	0.264	0.014	0.02
Overall Parent Attitude	8	0.333	0.001	0.06
Home Safety	8	0.278	0.015	0.03

Close administering of the children and parents allowed us to collect data of parental interference with their children's education after the program. A variety of data was collected surrounding different variables. (i) The control mean: average value recorded for the control group. (ii) Difference in Means: Difference between the averages of the treatment and control group. (iii) P-value: average values for the two genders being equal.

Table 3. – Parental Interference with Student Education as a Result of the Program

Variable	Age	Control Mean	Difference in Means	P-value
Mutual Cognitive Activities	5	33.575	32.478	0.942
Mutual Non-Cognitive Activities	5	379.144	68.385	0.045
No Interaction Between Parent and Child	5	–453.922	–76.341	0.063
Mutual Cognitive Activities	6	35.208	39.410	0.603
Mutual Non-Cognitive Activities	6	350.019	63.590	0.011
No Interaction Between Parent and Child	6	–658.820	51.834	0.065
Mutual Cognitive Activities	7	42.035	84.457	0.011
Mutual Non-Cognitive Activities	7	339.616	150.324	0.414
No Interaction Between Parent and Child	7	–857.624	160.408	0.397
Mutual Cognitive Activities	8	70.687	25.677	0.232
Mutual Non-Cognitive Activities	8	480.1535	66.485	0.075
No Interaction Between Parent and Child	8	–702.74	59.786	0.039

11. Results and Discussion

11.1 Cognitive

Table 4.– Program Effects on Cognitive Ability of Students

Variable	Age	Treated SD	Permutation P-value
SD of Improvement in Math	5–6	0.360	0.273
SD of Improvement in Reading	5–6	0.268	0.214
SD of Improvement in Intelligence Tests	5–6	0.232	0.1348
SD of Improvement in Math	7–8	0.230	0.292
SD of Improvement in Reading	7–8	0.111	0.342
SD of Improvement in Intelligence Tests	7–8	0.124	0.329

Based on math achievement scores, Murnane, Willet and Levy (1995) report that students who score one SD higher earn on average 9.3% higher when they reach the working age. Based on reading achievement scores, Currie and Thomas (1999) report that students who score in the upper quartile of reading exams earn 20% more than those in the bottom quartile, which is associated with 8.0% increase in earnings per one SD of increase in testing performance (Additionally, Neal and Johnson (1996) estimated similar effects of student scores using the National Longitudinal Survey of Youth and Armed Forces Qualification Tests. Students were reported to receive 20% higher earnings per one SD increase). Reasons for the percentage gap could be (i) students who took the AFQT exam were older, (ii) Results reported by Currie and Thomas discover certain mean regression in exam results. Therefore, it is more reasonable to associate one SD increase with an 8.0% increase in earnings. We take into consideration the latest predictions on real earning growth in section 5.c.

There are certain caveats to our estimated results. First, our calculations do not account for fringe benefits, which could cause estimated benefits to be understated by around 33.3%. Second, the effect of testing results on earnings have the potential to change in the future, which might require a different implementation of the equations. Third, there is ambiguity in the growth of earnings in the future, although an argument can be made for the reliability of wage growth predictions.

From table (Table 4), we see significant improvement in the cognitive abilities of treated students in the program. It is important to note the short time frame of the program conducted. With 14 weeks of the program, children ages 5–6 have achieved 0.36 and 0.268 SD of increase in reading and math, respectively. Children ages 7–8 have achieved 0.230 and 0.111 SD of increase in reading and math, respectively. It can be argued that the scope of these cognitive improvements alone is sufficient to prove the effectiveness of the program.

11.2 Non-cognitive

Table 5.– Program Effects on Non-Cognitive Ability of Students

Variable	Age	Treated SD	Permutation P-value
1	*2*	*3*	*4*
SD of Improvement in Social Science Test	5	0.230	0.273
SD of Improvement in Critical Thinking Test	5	0.361	0.094
SD of Improvement in Social Awareness Test	5	0.199	0.02=633
SD of Improvement in Social Science Test	6	0.460	0.205
SD of Improvement in Critical Thinking Test	6	0.240	0.0774
SD of Improvement in Social Awareness Test	6	0.132	0.0350

1	2	3	4
SD of Improvement in Social Science Test	7	0.382	0.413
SD of Improvement in Critical Thinking Test	7	0.380	0.0513
SD of Improvement in Social Awareness Test	7	0.122	0.0848
SD of Improvement in Social Science Test	8	0.340	0.344
SD of Improvement in Critical Thinking Test	8	0.202	0.0561
SD of Improvement in Social Awareness Test	8	0.281	0.198

The importance of cognitive abilities is held at high regard, while there is significantly less focus on non-cognitive improvement. In order to better predict success in life, other factors should be considered as well (character skills, character traits, social awareness, and so on. It has also been suggested by economists that in order to improve the educational system, a reevaluation of which skills matter in life and when to form them is necessary. Cognitive abilities and non-cognitive abilities are reflected the best when improved together in terms of socioeconomic status (Heckman, 2010). Evidence arises from recent studies on the GED's economic efficacy. It was reported that students who did not graduate from high school but received a GED were not as successful as those who did graduate from high school. Interestingly, this was more caused by both cognition and character than just one factor. Economic success for both individuals and society is motivated by a combination of the factors described above, which the program studied in this paper considers.

The chart below completed by Conti and Heckman (2010) demonstrates considerations for these factors.

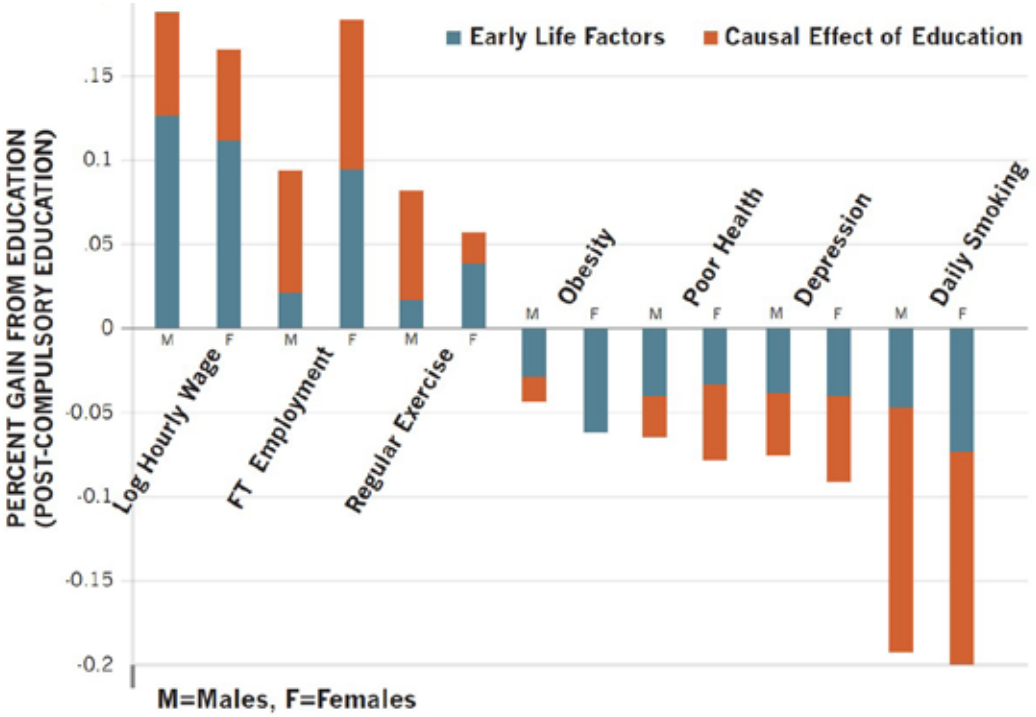

Figure 3. Disparities by Education (Post-compulsory Education)

We see that factors in early life accounts for 50% or more of the disparities (wages, health, obesity, depression, smoking) in adulthood.

The program conducted in this paper show significant results on non-cognitive improvement as shown by table (need to fill). Achievement tests

show that cognitive skills are boosted by development of the non-cognitive (30–40 percent of the variation in test results across students is due to character skills and not academic ability (Borghans et al. [2; 3], which is demonstrated by the program tested in this paper.

The effects of non-cognitive improvement are both statistically and economically significant.

For females, enhancements in academic motivation causes treatment effect to rise by 30 percent. This estimate is statistically significant ($p = 0.057$). For CAT scores at a teenage age, little can be said about academic motivation ($p = 0.161$ and 0.528).

Outcomes in the labor market illustrate that 18 percent of the treatment effects on earnings per month at the middle age ($p = 0.089$) and also about 21 percent of the treatment effect on the chances of employment ($p = 0.085$) can be explained by early improvements in outside behavior.

11.3 Economic Success in Adulthood

Variable	Untreated Mean	Treated Mean	AIPW Estimate	P-value
Estimated Earnings in Early Adulthood	78.326	114.345	11.967	0.3777
Estimated Earnings in Mid Adulthood	81.646	135.450	74.874	0.03432
Estimated Earnings in Late Adulthood	219.950	318.726	81.531	0.1451
Rate of Growth of Earnings	–0.0612	0.0866	0.8300	0.0719

Our estimated value suggest a significant difference in earnings and wage growth between those treated by the program and those who are untreated. As recorded by the table, the treated children are predicted to earn significantly more throughout all stages of adulthood compared to the untreated, and the difference peaks in late adulthood. Treated children are estimated to earn $98,776 more in late adulthood than the untreated children, with a wage growth rate at 8.66%. The permutation p-value for the estimated earnings and rate of growth, respectively, are 0.1451 and 0.0119.

11.4 Effects on Education with Financial Investment

All policies are financed by a flat income tax rate designed such that the government budget is balanced every period and all effects are evaluated in the new long run steady state. We assume that self-productivity increases with the developmental stages. Literature on parental investments recognize the correlation between parental skills and student skills and established that they stabilize from age 1 on (Cunha [17]).

Through our results, we conclude that the impact of parental investments is larger during the first developmental stage of children, yet the effects last for a relatively short amount of time.

Further data was collected shortly after financial investment was received by the parents to track how they used the rewards.

Table 6.– Demographic Sample: (S = 50)

Characteristic Detected	Result(S%)
Books or Educational Material	23.3%
Utilities	20.8%
Health/Medicine	13.1%
Food	13.0%
Clothing for Children	9.8%
Savings	7.9%
Items for Home	6.7%
Other	5.4%

12. Conclusion

Utilizing experimental data from an educational program for young children, we examine treatment effects while modeling the rate of returns and benefits. By examining effects of cognitive and non-cognitive education while also testing potential modifications to the program, we discuss and make conclusions on treatment effects, the present value of costs and benefits, financial investments and incentives, and economic success in adulthood. The young age of candidates

is significant in the success of the program. One reason why is that behavioral problems are more of a concern with older children. We present the benefits that arise from an organized and concise educational program for young children and show how they will potentially increase success in life. We show that the development of both cognitive and non-cognitive skills is both achievable and optimal for socially and economically disadvantaged children and families. Therefore, we argue that public policies ought to direct attention at the implementation of programs that reduce poverty and increase the ability of children.

Specifically, federal and local policies aimed at improving the educational system should both focus on improvement of cognitive ability as well as personality and social awareness. Programs that target cognitive development can be directly evaluated via their performance, which results in clear benefits for children at a young age and later in adulthood. Current policy-making structures lack proper methods and resources to support these areas of development for the disadvantaged. We show how investing in early-childhood development prepares children for successful adult lives. Both policy makers and those who are involved in the education process should (i) look to considerable investment in early-childhood educational programs for children ages five to eight (Both short-term and long-term programs provide considerable benefits. The short-term program tested in this paper can be best implemented as an education resource during times where regular school does not occur) (ii) Incorporate both cognitive and noncognitive curricula consistently, (iii) Incorporate the results of non-cognitive development in data collection and analysis of educational programs, (iv) be aware that outside motivators for parents and students are beneficial, yet the way they are used are difficult to control and may not benefit the families the way researchers predict.

13. Additional Appendix

13.1 Figure: Human Capital Earnings Function

Recent evidence on the shape of the *F* function and the performance of a specification displays age profile and earnings realistically. Differences between fitted and actual data suggest that age-earnings profiles for US men and women are rather smooth (well-approximated by a simple variant of the human capital earnings function).

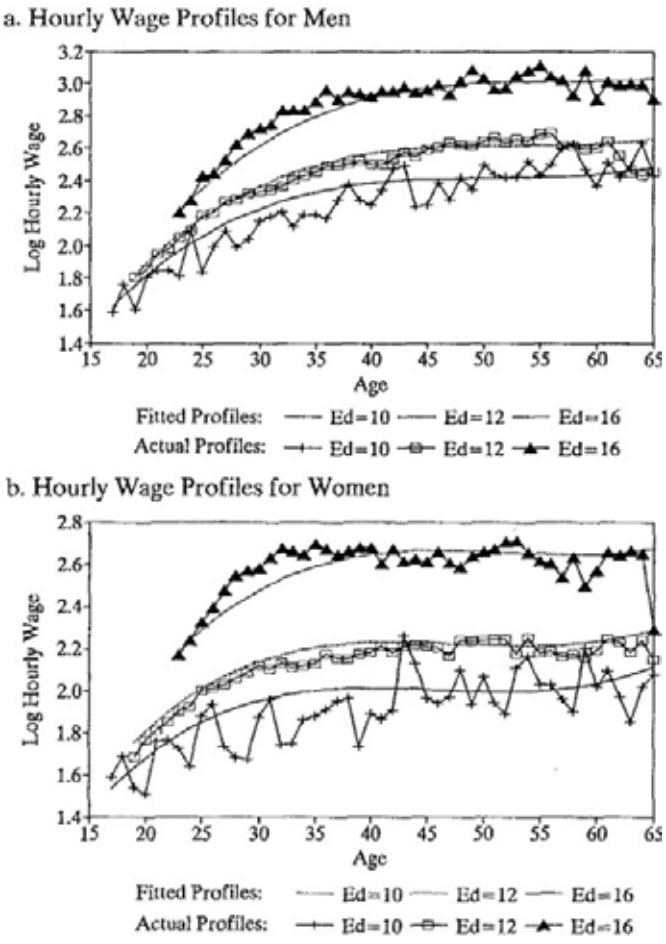

Figure 4. Age profiles of hourly wages for men (a) and women (b).

13.2 Earning Profiles

The Average Earning and Age Function below is interpreted from data collected by PSID.

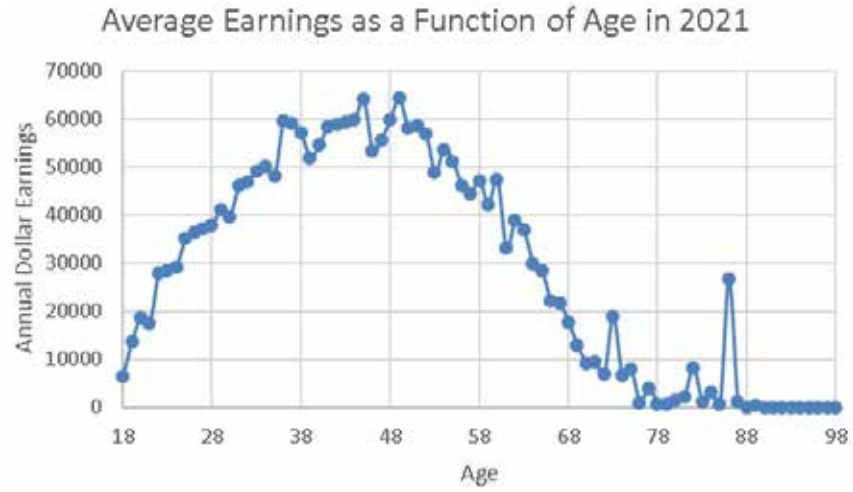

Figure 5. Average Earnings as a Function of Age in 2021

Year	Qtr1	Qtr2	Qtr3	Qtr4
2011	755	753	753	764
2012	769	771	758	775
2013	773	776	771	786
2014	796	780	790	799
2015	808	801	803	825
2016	830	824	827	849
2017	865	859	859	857
2018	881	876	887	900
2019	905	908	919	936
2020	957	1002	994	984
2021	989	990		

Figure 6. Median Usual Weekly Earnings of Full-time Wage and Salary Workers by Age

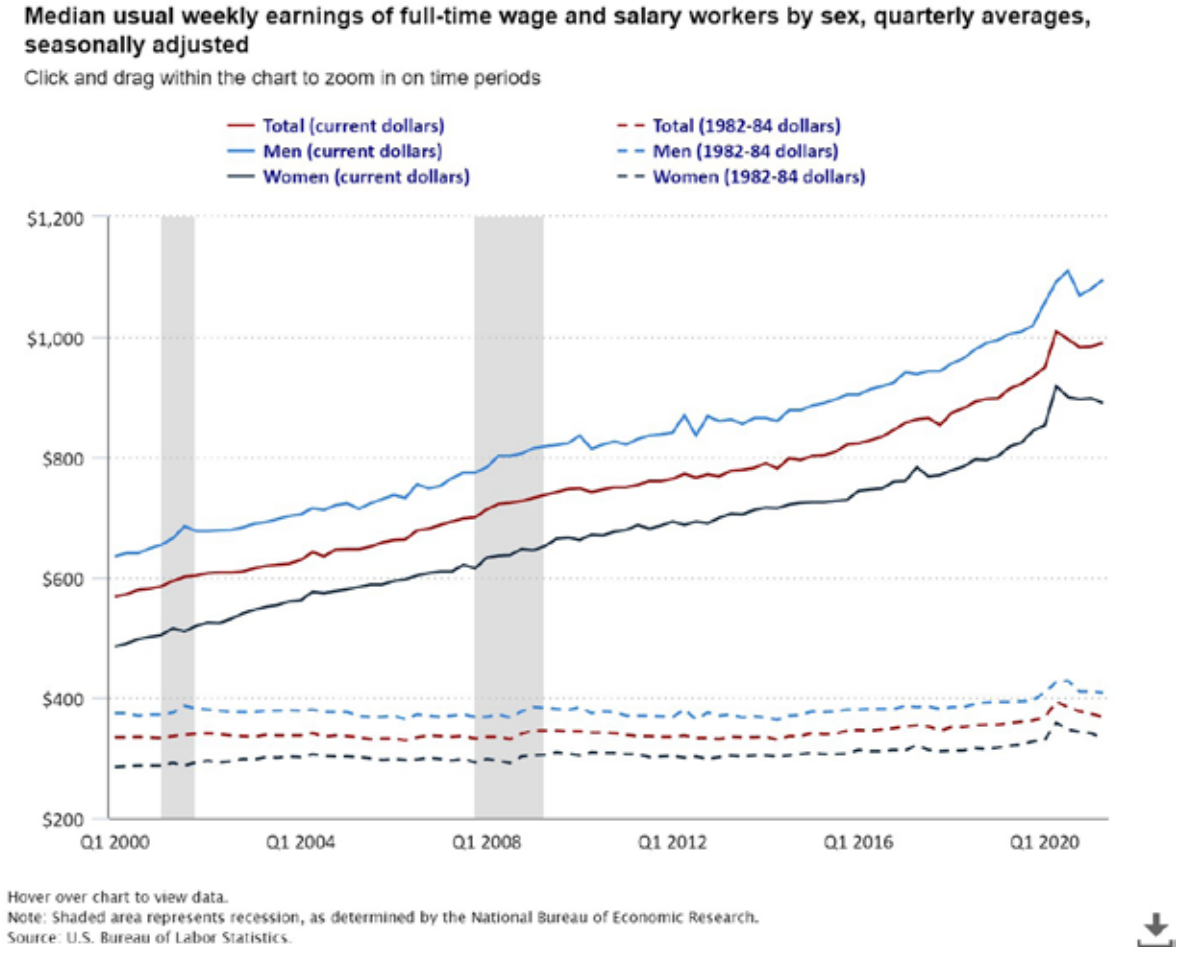

Figure 7. Median Usual Weekly Earnings of Full-time Wage and Salary Workers by Sex

13.3 Additional Material on Non-Cognitive Treatment

Detailed Explanation and Definition of Attributes in Personality Psychology

Table 7. – Big Five Domains and Facts

Big Five Personality Factor	American Psychology Association Dictionary' Description	Facets (and correlated skill adjective)	Related Skills	Analogous Childhood Temperament Skills
Conscientiousness	The tendency to be organized, responsible, and hardworking	Competence (efficient), Order (organized). Dutifulness (not careless). Achievement striving (ambitious), Self-discipline (not lazy), and Deliberation (not impulsive)	Grit, Perseverance, Delay of gratification, Impulse control. Achievement striving. Ambition, and Work ethic	Attention/(lack of) distractibility, Effortful control. Impulse control/ delay of gratification. Persistence, Activity*
Openness to Experience	The tendency' to be open to new aesthetic, cultural, or intellectual experiences	Fantasy (imaginative), Aesthetic (artistic), Feelings (excitable), Actions (wide interests), Ideas (curious), and Values (unconventional)		Sensory sensitivity, Pleasure in low-intensity activities, Curiosity
Extraversion	An orientation of one's interests and energies toward the outer world of people and things rather than the inner world of subjective experience; characterized by positive affect and sociability	Warmth (friendly), Gregariousness (sociable), Assertiveness (self-confident), Activity (energetic). Excitement seeking (adventurous), and Positive emotions (enthusiastic)		Surgency, Social dominance, Social vitality, Sensation seeking, Shyness*, Activity*, Positive emotionality and Sociability/affiliation
Agreeableness	The tendency' to act in a cooperative, unselfish manner	Trust (forgiving), Straightforwardness (not demanding), Altruism (warm), Compliance (not stubborn). Modesty (not show-off), and Tender-mindedness (sympathetic)	Empathy, Perspective taking. Cooperation, and Competitiveness	Irritability*, Aggressiveness, and Willful- ness
Neuroticism/ Emotional Stability J	Emotional stability is «Predictability and consistency in emotional reactions, with absence of rapid mood changes.» Neuroticism is «a chronic level of emotional instability and proneness to psychological distress»	Anxiety (worrying), Hostility (irritable), Depression (not contented), Self-consciousness (shy). Impulsiveness (moody), Vulnerability to stress (not self-confident)	Internal versus External, Locus of control, Core self evaluation, Self-esteem, Self-efficacy, Optimism, and Axis I psychopathologies (mental disorders) including depression and anxiety disorders	Fearfulness /behavioral inhibition, Shyness*, Irritability'*, Frustration, (Lack of) soothability. Sadness

Notes: 'These temperament attributes may be related to two Big Five factors. Facets specified by the NEO-PI-R personality inventory (Costa and McCrae, 1992). Adjectives in parentheses from the Adjective Check List (Gough and Heilbrun, 1983).

Source: Table adapted from John and Srivastava (1999).

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Section 2. Marketing

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BUSINESS PROMOTION IN SOCIAL MEDIA ON THE EXAMPLE OF INSTAGRAM

Abstract. The author considers the promotion of business in social networks, its effectiveness and possible results. Recently, such platforms as Instagram have obtained the status of one of the most efficient promotion channels. Statistics are provided to confirm the need to promote business in Instagram. The latter is considered as a marketing platform. The author also analyzes the content plan and the types of advertising in Instagram, indicating the advantages and risks of each one.

Keywords: promotion, social media, marketing, Instagram, target audience, e-business, personalization.

Instagram continues to grow as the forth most popular social network at the global scale. In July 2021, in terms of the number of active users Instagram (1.368 billion) goes after Facebook (2.853), Youtube (2.291) and Whatsapp (2.0) respectively [4], and the engagement rate exceeds that of Facebook by 1.78% (2.2% and 0.22%, respectively) [1].

50% of users who have seen a product or service advertised on Instagram make a purchase on a seller's website [5]. The same proportion characterizes people, who become more interested in brand having seen an ad for it [5]. 90% of Instagram audience follow at least one business profile [5]. 40% of Instagram users prioritize this platform while purchasing products or services online. In June 2021, the number of business accounts in Instagram reached more than 200 million [3].

These statistics encourage business entities to present its goods and services in social networks and to use all the opportunities of the latter to increase sales, customer loyalty and to achieve other business goals. This is typical for both B_2C and B_2B.

Such types of marketing as cold calls, banners on the streets, commercials on television together will not overtake the benefits of promotion in social networks due to the fact that the former items do not practically provide opportunities and scope for personalization. Furthermore, a number of people, who spend time in social medias, has increased as well as the social network screen time has done. Thus, the conversion rates will be higher both due to the quality (personalization) and the quantity (the number of the active users is almost equal to the population of China).

Instagram as a marketing platform rests on the fact that a human quickly catches visual images. This is beneficial for any business as people tend to remember something they saw rather than just read or heard. Statistics state that most consumers notice only the product picture without reading the descrip-

tion [2, 567]. Therefore, the business attracts the attention of a potential buyer through photos and / or videos. Furthermore, a client has a deep respect for the censorship policy of Instagram, which prohibits advertising of drugs, weapons, gambling, etc., as well as content with explicit content or one with a hint of it.

The typical interface of Instagram implies publication of posts and stories, comments, communication in Direct [6, 178]. As soon as Instagram was recognized as a marketing tool for business, it added such features as specifying the sponsor of a post, a personalized feed that is permanently compiled on the basis of user's actions, which are determined by the interests of the latter. These opportunities are applied to reach each person with the help of influencers or through an approximation to the ideal compliance of the product or service with the user's preferences.

As mentioned above, Instagram is developing both extensively and intensively. Its developers have recently introduced "masks", which turns into a business promotion tool that helps to attract more followers and increase audience loyalty. Such goals are achieved due to the fact that masks trigger a wave of user content. Moreover, if the user does not mark the developer of the mask, his or her followers can find out its origin of the mask, since it is automatically indicated. In addition, the masks of a particular brand are available only to its followers.

Instagram lets business entities conduct tests with different formats of ads, manage the marketing budget and collect comprehensive statistics for subsequent analysis necessary to improve the marketing strategy.

The modern marketing plan of Instagram includes following elements:

- a team of various specialists, including an SMM-manager, a copywriter and a designer;
- a business account with an address, the link to the website, contact details of brand representatives, a description of the company, where a competitive advantage is usually specified;
- content adapted to the target audience and the objectives of the brand's marketing strategy;
- all the necessary information that does not fit in the description is subject to publication in stories, the basic information is fixed in highlights (for example, the cost of goods and/or services).

Nature of Instagram content is different from that of any format, because it is not openly advertising: the emphasis is put on positioning information about the brand, the target audience's attention is attracted by publishing useful content that pushes the user to act in the interests of the business. In this sense, the content can be presented as educational, communicative, reputational, entertaining one, or news-related content [6, 176]. Educational content can be designed in the form of check-lists, while communicative one is focused on building communication with the audience in the form of comments and answers to them. News-related content runs about the publications informing users about the brand and its products whereas reputational one is specialized in publications related to understanding the client's problems and the company's attitude to them. As for entertaining content, it is presented in the format of playing with users.

Depending on the marketing goals of the business, there are six types of business accounts: a store, which represents a showcase page; a public account, which has the format of an online magazine that forms an attitude to the brand; a personal brand account; an informational blog, where content is based on text posts and communication with followers; a brand account, the purpose of which is to maintain audience loyalty and increase brand awareness; a mini-landing page that allows to achieve a quick conversion with minimal costs for creating and launching a page, as well as quickly catches the audience and encourages one specific action (buying a product and / or service, participating in an event, etc.).

Instagram business interface allow to track content statistics, making an emphasis on the following metrics: impressions (the total number of views of a publication (history or post)), coverage (the actual number of views, namely the number of people who

saw a publication), engagement (all audience activity, including clicks, likes, saves, reposts, marks, reactions, etc.), page visit (the number of people who clicked on the business profile).

There are several Instagram advertising options, namely:

Option	Advantages	Risks
Buying advertising from influencers	to appeal to the target audience in a personalized way	the possibility of refusing advertising
Mass-liking and mass-following	to attract audience for free	It is time-consuming and does not guarantee the arrival.
Holding contests	to quickly attract an audience	mass-leaving after the end of the competition
Targeted advertising	to achieve wide coverage of the target audience	high costs

Almost all people of great public importance, such as celebrities, politicians, etc., have official Instagram pages, with a few exceptions. It happens not only due to the fact that Instagram provides great opportunities for the implementation of various goals related to attracting people's attention to certain issues, with the subsequent search for customers or like-minded people, but also due to the fact that the global information community considers the presence on Instagram to be reputational, so the latter increases the reputation of people and businesses in the eyes of users. Thus, business promotion in Instagram is attributable not only to profit considerations, but also to reputational ones.

Due to the great number of Instagram accounts, content is abundant, which provokes the problem of the presence of non-unique content in the social network. It constitutes the scope of plagiarism. It is essential to be prepared for the fact that intellectual property may be stolen, because only the copyright holder can complain on the theft of the content.

Taking into consideration all mentioned above, the promotion of business in social networks, for instance Instagram, will help to establish or improve the quality of communication and interaction with the target audience, create or strengthen the brand image, and, accordingly, increase its awareness in the market. This marketing strategy meets the realities of the information society, whose life is tied to technologies. The most important advantage of social networks for business promotion is an opportunity to apply a personalized approach to marketing.

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Section 3. Management

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MANAGEMENT OF US HEALTHCARE SYSTEM

Abstract. The article examines the US health care system, which is the most expensive in the world. The authors note that America spends more on it than any other country, both in absolute terms and in relation to the gross domestic product (GDP) per capita. Last year alone, the US spent $2.26 trillion on health, which is $7.439 per person (about 16% of GDP). According to the authors, the share of GDP allocated to health care will increase and amount to 20% of GDP by 2023.

Keywords: State programs, health care system, insurance systems.

Introduction

According to the National Academy of Sciences' Institute of Medicine, the United States is the only advanced industrial country in the world that does not have a universal health care system. About 84% of citizens have health insurance, 64% of the insurance is provided by the employer, 9% bought it on their own, 27% of the insurance is provided within the framework of state programs. Certain state programs allow people with disabilities, elderly people, children, veterans, and low-income people to receive medical help. The state provides emergency help to all residents of the country, regardless of their ability to pay for it. Over 45% of spending goes to finance such government programs, the US government is the nation's largest insurer.

In 2016, 16% of the population did not have health insurance – 47 million people. This is due to the high cost, which is growing faster than wages or inflation. In 2011, about 50% of companies went bankrupt due to health care costs. There is a constant debate around the American healthcare system, debates about affordability, efficiency, and quality, as well as the huge amounts that are spent on its maintenance.

In 2019, WHO, having analyzed the health systems of 191 countries around the world, gave the United States the first place in the ranking of the most stable systems capable of responding quickly to changing conditions. At the same time, the United States ranked 1st among the most costly healthcare systems and only 37th in terms of medical care and

72nd in overall health. However, the WHO study has been criticized for its methodology and lack of analysis of consumer satisfaction with the health system. According to the CIA World Facebook, the United States ranks 41st in the world for infant mortality and 45th for life expectancy. The 2019 annual National Health Survey by the Center for Disease Control of the National Center for Health Statistics found that approximately 66% of respondents considered their health to be "excellent" or "very good".

The structure of the health care system. The US health care system is represented by independent services at three main levels – family medicine, hospital care, and public health. Medical services are provided by individuals and legal institutions. Various commercial, charitable and government organizations offer both outpatient and inpatient services to patients. About 47% of all health care costs are inpatient care, about 2% home care, 10% medication, and 10% nursing home care. The remaining 11% covers the services of dentists, ophthalmologists, and other narrow specialists. Family medicine is a fairly developed structure. Family doctors examine and observe patients and, if necessary, refer them to specialized specialists or to a hospital. Physicians receive payment directly from patients. As a rule, the family doctor has his own office or cooperates with other specialists. Hospitals or hospitals are the largest components of medical services. Inpatient care is the most costly and important component of the country's health care industry.

Recently, however, there have been noticeable shifts in the direction of other institutions, mainly polyclinics, emergency rooms, and nursing homes. Outpatient services are slowly but surely replacing inpatient care, and home care is replacing nursing homes. In the United States, as in other countries, the concept of outpatient care includes the provision of services without hospitalization of the patient, which accounts for a large proportion of the provision of medical care to the population. Home care is funded by nursing organizations and is usually prescribed by doctors. The private outpatient care sector is represented by personal doctors (general practitioner, family doctor, pediatrician), specialized doctors (gastroenterologist, cardiologist, pediatric endocrinologist) as well as nurses and other medical personnel. In 1996, the so-called concierge medicine services appeared – the provision of an expanded range of services by a personal doctor for a prepayment.

Government programs

Many Americans without private insurance are eligible for government programs such as Medicare and Medicaid, as well as state and local low-income programs. About 25% of uninsured residents (about 11 million people) could take part in the state program, but weren't covered by it. One goal of the government is to expand these programs to all segments of the population. In 1966, Congress passed legislation reforming the social security system. Since then, every state in the country has submitted a plan to provide health services to its Medicaid populations to the federal government. After the plan was approved, states used federal money to fund medical services, as well as their own revenues. Each state has its own Medicaid program, which makes it very difficult to manage.

Health care costs

The Center for Medicare and Medicaid Programs has published an analysis of total health care costs that includes not only historical data but also projected costs. $2.1 trillion was spent in 2016, or 16% of GDP. These figures, compared to 2014, have grown by 6.7%.

Because of the investigation, the Congressional Budget Committee concluded that the increase in health care costs is directly related to changes in the provision of medical care that have occurred because of improvements in technology, as well as because of rising income levels, changes in insurance coverage, and price increases. Hospital and physician costs account for the majority of total healthcare costs, while prescription drug costs account for only 10%. People of mature and old age spend much more on health services than the working population or children.

Dartmouth Atlas of Health Care (2008) reports that providing Medicare care for patients with chronic conditions in the last two years of their life increases costs due to the number of diagnostic and treatment procedures and increases hospital stays.

Health financing system

The health care system is not fully funded by the state and receives the missing funds from public and private funds. In 2019, 36% of health care costs were covered by private insurance policies, 15% by individuals, 34% by the federal government, 11% by state or local governments, 4% by other private funds. 59.7% of insurance payments are paid by the employer.

In addition to insurance, there are employee benefits in case of disability, life insurance, etc. And although the employer is not obliged to provide insurance to a full-time employee, large enterprises practice such insurance. In 2019, the cost of insurance increased by 78%, wages by 19%, and inflation by 17%. At the same time, employees who are insured by the employer sometimes have to pay for medical services on their own in the form of various additional payments and deductibles. Employers offer various types of health insurance. One of the most common types of insurance is compensation insurance or service fee insurance. Under this form, the employer pays the insurance company a premium for each employee covered by the relevant policy. The insurance company then pays for the receipts provided by the medical facility or doctor. Usually, the insurance company covers 80% of the costs of treatment, the rest of the money must be paid by the patient.

Another type is "managed services" insurance. There are several types of such insurance: the "staffing model" includes most of the health care providers who provide services, others cover hospitals and nursing homes. So-called networks or associations of independent practitioners sign contracts with a specific group of healthcare professionals and institutions for the provision of all services provided to patients under this type of insurance. Usually, insurance companies receive a certain fixed amount, which is paid in advance for each patient.

With "service fee" insurance, physicians are paid the specific cost of services that are actually provided to patients who need them. With "managed services" insurance, physicians receive only a set amount for each insured patient, regardless of whether the patient will receive additional services in excess of the amount or not. In the first case, health care workers are interested in attracting patients and providing them with a variety of services, and in the second, they are unlikely to prescribe them more than necessary.

In 2021, uninsured residents received approximately $35 million in uncompensated health care, according to data published in the journal Health Affairs. The analysis noted that the cost of such help per person was half the amount that an insured resident receives. In addition, it was found that about $30.6 billion is spent by the state for medical care of uninsured residents, covering 80–85% of uncompensated medical care through grants, various direct payments, tax subsidies, Medicare, and Medicaid payments. Most of the funds come from the federal budget, state budget, and local taxes.

In the United States, the federal government and part of the state governments handle the health insurance system, which is enshrined in the McCarran-Ferguson Act. States can regulate the number of medical services provided by medical programs. Although the American health care system is the most expensive in the world, it is not without its drawbacks. However, the United States is constantly taking steps to improve the health care system and the health of the general population.

Conclusion

Supporters of this system argue that providing health care to uninsured citizens leads to huge costs that can be avoided by covering the entire population with a compulsory health care system. Their opponents appeal to the universal compulsory state health care system, talk about the freedom of choice of each person, arguing that the introduction of the

system will lead to higher taxation and a decrease in the quality of medical care. However, they agree that today the government is forced to spend huge amounts of money on health care and the most effective solution to this problem may be to stimulate market relations, increase and introduce innovative approaches. In addition, all political forces unanimously defend the inviolable right of every person to the provision of medical care, which must be protected by the state.

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Section 4. Regional economy

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SETTLEMENT OF LAND DISPUTES BETWEEN VILLAGERS AND OIL PALM PLANTATIONS: UNRESOLVED CONFLICT RESOLUTION

Abstract. This paper aims to explain the source of conflict and the process of resolving land disputes, as well as analyze why citizens use the headband symbol in their resistance. This case occurred in Jambu Baru Village, Kuripan Sub-District, Barito Kuala Regency, and South Kalimantan Province. This paper is compiled based on data obtained from the results of *literature review*, especially the results of news observation from online media that report on the demands of residents who refuse to operate oil palm plantations in their villages. In addition, there is secondary data sourced from the Central Bureau of Statistics of Barito Kuala Regency. Moreover, the data analysis is done. From the results of the analysis it can be known that the conflict began when the district government decided to open a swamp area that was considered unproductive as oil palm plantations. Sometime after the plantation is operational, there is a dispute between the residents and the company. The community complained about the issue to the legislature. Based on the results of mediation conducted by the legislature, the company temporarily suspended the company's operations in the village. In the protests, residents used distinctive headbands as a symbol of resistance. In order not to cause problems in the future, a complete resolution of the dispute is needed, which can provide a permanent solution for both parties.

Keywords: Oil Palm Plantation; South Kalimantan; District Government; The Company; and The Resident.

I. Introduction

Conflict is inherent in human life, because life is colored by differences and contradictions. (Holman [11]) in (Rahmatullah & Hadi [18]) defined conflict as a human mental and spiritual struggle that involves differences in conflicting principles, statements, and arguments. (Yang, Cheng, & Chuang [31]) argued that conflict is a process that occurs between two or more parties related to an object, using certain patterns of behavior that produce conflict output. According to the theory from (Pruitt, Rubin & Kim [17]) mentioned that conflict is the perception of differences in interest, or a belief that the aspirations of the parties to the conflict cannot be achieved simultaneously. If one party has entered the other territory by filing a claim, then the conflict has become a dispute. In disputes concern conflicts in it, while in conflict does not necessarily contain elements of dispute.

In human life, conflict can occur in many areas of life, including natural resources. Because of the difference in perspective between interested parties, natural resources that have a high potential for conflict. In addition, in natural resources there are inherent characteristics, namely intangible properties (not easily quantified in monetary form), common property (the assumption that the environment is public property), negative externalities (the impact on others, not initiators of activities), and long-term (the impact occurs in the long term) (B. Setiawan & Hadi [22]).

Natural resources are essential in supporting the sustainability of human life. Especially for humans who still adhere to the traditional way of life, where they are very dependent on the generosity of nature. In this case it will appear that they will maintain harmony with the surrounding nature. Therefore, humans are not only social creatures, but also ecological creatures. This means that the full meaning of human life is found not only in relation to others, but also in relation to nature as an ecological being, which Arne Naess refers to as *ecosophy* (Wu, Li, & Li [30]).

In Indonesia, natural resources, especially land, contain a very high potential for conflict given the increasingly limited amount of land available compared to the growth in population. Based on the records from (Konsorsium Pembaruan Agraria, [14]), throughout 2018 there have been at least 252 agrarian conflicts, with an area of conflict reaching 400.430 hectares, involving 108.714 family heads. The following table shows details of the area of agrarian conflict in question.

Table 1.– Extent of Agrarian Conflict Area in Indonesia During 2018

No.	Types of Agrarian Conflict	Area of Conflict (Ha)
1.	Conflicts in the plantation sector	302.526
2.	Conflicts in the forestry sector	52.176
3.	Conflicts in the mining sector	21.127
4.	Conflicts in the coastal-marine sector	11.231
5.	Conflicts in the infrastructure sector	10.603
6.	Conflicts in other sectors	1.827
7.	Conflicts in the agricultural sector	940

Source: (Konsorsium Pembaruan Agraria [14])

Conflicts in the plantation sector recorded the highest area of conflict. The high conflict in the plantation sector is related to the industrial expansion plantation forest companies and oil palm plantations. The expansion of oil palm plantations occurred in various regions of Indonesia, including in South Kalimantan. Based on the records from (Konsorsium Pembaruan Agraria [14]) of South Kalimantan region accounted for 1.20% of the total agrarian conflicts that occurred throughout Indonesia.

Related to land conflicts in oil palm plantations, there have been conflict resolution efforts, such as

(Dhiaulhaq et al. [8]) where in transforming conflicts in plantations can be done through mediation, it is based on the experience of plantation conflicts in Sumatra. (Dhiaulhaq et al. [8]) also observed at the effectiveness of the use of mediation in addressing forestry and land conflicts, with cases in Cambodia, Indonesia and Thailand. From these two studies, conflict can be resolved through mediation. Efforts to overcome conflict by putting forward negotiations, for example, can be seen from the research results of (Rokhim, Januari, Atik, Shara & Rusdayanti [20]) where to resolve the conflict, oil palm plantation companies have given plasma plantation land to former land owners, promising compensation, compensation agreements, and negotiations to end the occupation of plantation land. Meanwhile, the research from (Hanley [9]) showed that there are efforts to resolve conflicts by giving some money to each affected family head, even though they accept it forcibly because of intimidation from certain individuals.

If these studies show the existence of conflict resolution efforts through various mediations and also negotiations in the form of giving some money so that disputes can be resolved, then this paper will discuss an unresolved dispute resolution. This incompetence can certainly be a time bomb that can explode at any time causing greater losses. Based on the pattern of incomplete conflict resolution, the purpose of this paper is to find out the cause of the conflict, the process of conflict resolution, and the use of symbols in resistance by citizens in protests.

II. Research method

This article is based on the results of a case study. This case study includes a type of instrumental case study, as a theory from (Verd, Barranco & Lozares [28]), because this case study provided a basis for understanding certain issues that are not of primary interest, but secondary interests used to support other interests. The source of the research data was obtained from the results of *literature review*, especially from online media published in the period July-August 2019, which reported the demands of residents in The Regional Representative of Barito Kuala Regency, as well as official documents sourced from the Central Bureau Statistics of Barito Kuala Regency. Thus, the main source of this writing is secondary data. Nevertheless, in an attempt to obtain valid information, the author has conducted an interview with one of the protesters who was successfully contacted.

Although the author did not visit the location after the protest, it does not mean that the author does not know the village that is the object of this writing. In 2014 the author visited the village to conduct research on the existence of community livelihood sources in connection with the expansion of oil palm plantations. The research results had been issued by (Varkkey, Tyson & Choiruzzad [27]). From the research results it can be known that there is a threat to local livelihood sources that have been carried out by the community for generations due to the opening of oil palm plantations. Therefore, it is not surprising that then there is a reaction from the community to oil palm plantations, where they refuse their presence.

III. Result and discussion

– Introducing Jambu Baru Village

Jambu Baru Village is one of nine villages in Kuripan Sub-District, Barito Kuala Regency. Quoted from the Central Bureau of Statistics of Barito Kuala Regency (2018), this village is the largest village in Kuripan Sub-District, because the area reaches 84 kilometer, or equivalent to 24.45% of the total area of Kuripan Sub-District which reaches 343.50 kilometer. From Jambu Baru Village, the distance to the Sub-District capital reaches 27 km, while to get to the district capital must be reached a distance of 28 km. Jambu Baru Village is a village located on the banks of the Barito River, where this river is the main transportation route for people to go to the district and district capital. The main modes of transportation are *Klotok* boats (the local designation for small outboard boats) and speed boats.

In 2017 the population of Jambu Baru Village amounted to 580 people, consisting of 270 men and 310 women (Central Bureau of Statistics Barito

Kuala Regency, 2018). From this figure, the gender ratio between the male and female population reached 87.10. If the number of head's family is calculated, then there are 195 heads of families. When calculated based on the area (84 km) compared to the population (580 people), the population density in Jambu Baru Village reached 6.90 people / km. According to the gender ratio, it can be known that in Jambu Baru Village there is more female population than the number of male population. Judging from the rate of population growth during 2010–2017, it can be known that the rate of population growth in Jambu Baru Village averaged 1.43%. The Details on the resident's number of Jambu Baru Village during 2013–2017 can be seen in the table below.

Table 2. – Number of Residents of Jambu Baru Village 2013–2017

No.	Years	Gender		Amount	Gender Ratio	Population Density (live/km)
		Males	Females			
1.	2013	254	294	548	86.39	6.52
2.	2014	257	298	555	86	*
3.	2015	262	302	564	87	6.71
4.	2016	266	306	572	83.93	6.81
5.	2017	270	310	580	87.10	6.90

Source: Central Statistical Agency of Barito Kuala Regency 2014, 2015, 2016, 2017, 2018, Customized

According to the level of family welfare, the residents of Jambu Baru Village can be grouped into five stages. Referring to National Population and Family Planning Agency, the stages classified into as follows: 1) Pre-Prosperous Family, which is a family that does not meet one of the six indicators of The Prosperous Family I (KS I), or the indicator of *'basic needs'* of the family; 2) Prosperous Family I (KS I), is a family that is able to fulfill the six indicators of KS I stage, but has not met any of the eight indicators of Prosperous Family II (KS II), or indicators of family *'psychological needs'*; 3) Prosperous Family II, is a family that is able to fulfill six indicators of stage KS I and eight indicators of KS II, but does not meet any of the five indicators of Prosperous Family III (KS III), or indicators of *'developmental needs'* of the family; 4) Prosperous Family III, is a family that has been able to meet six indicators of KS I stage, eight indicators KS II, and five indicators KS III, but does not meet one of the two indicators of Prosperous Family III Plus (KS III Plus), or indicators of *'self-self-esteem*) of the family; and 5) Prosperous Family III Plus, is a family that has been able to meet the whole of six indicators of KS I stage, eight indicators KS II, five indicators KS III, and two indicators KS III Plus. Details of the stages of family welfare level and numbers in Jambu Baru Village are as follows.

Table 3. – Number of Pre-Prosperous Families and Prosperous Families in Jambu Baru Village

No.	Categories	Amount
1.	Pre-Prosperous Families	7
2.	Prosperous Families I	37
3.	Prosperous Families II	105
4.	Prosperous Families III	19
5.	Prosperous Families III plus	22

Source: Central Statistical Agency of Barito Kuala, 2018. Kuripan Sub-District amount in a number 44

The settlement residents of Jambu Baru Village are on the banks of Barito River. Some of the houses are built on the river, while some are on land facing the river. Unfortunately, some of the houses built on the river do not make the river as a front yard, but instead serve as a kitchen and backyard. This shows that the construction of the house has shifted orientation to land. Overall, the settlement is spread across 4 Neighboring Pillars (RT), where there is

only one pillar of the Population (RW). The majority of the population is the Dayak Bakumpai tribe, which comes from Dayak Ngaju family. In everyday communication, they use Bakumpai; but if communicating with non-Bakumpai speakers then Banjar language is used.

Based on the source of the Bureau Central Statistics of Barito Kuala Regency (2018), it can be known that the educational infrastructure available in Jambu Baru Village classified into 3 parts such as one Kindergarten, two Elementary Schools (elementary), and one Junior High School. If students want to continue their education to the High School Level, they have to go to the sub-district capital where there is the only high school for the entire Kuripan Sub-District. To get to school, the students use boat transportation, because there is no road access from Jambu Baru Village to the capital of Kuripan Sub-District. Health infrastructure is in the form of one Village Health Post (Poskesdes) and one Integrated Service Post (Posyandu).

The number of health workers in health care facilities classified into such as follows: one midwife and one village shaman. The worship infrastructure consists of one small mosque and two mosques. The existence of worship infrastructure for Muslims is related to the population who as a whole (100%) adhere to Islam. Socio-political institutions are in Jambu Baru Village in the form of one Village Consultative Agency (BPD) and one Village Community Empowerment Institution (LPMD/LPMK).

As a community living in the countryside, agriculture is a source of life for residents in Jambu Baru Village. Based on data from the Central Bureau Statistics of Barito Kuala Regency (2018), the area of rice paddy harvest reached 400 ha; while the farmers are gathered into four Groups of Farmers or Combined Farmers Groups (Gapoktan) with a total of 86 members. Therefore, each farming group consists of about 21–22 people. In addition to planting rice, residents also plant yams, fruit trees, and raise chicken villages. In addition to relying on the agricultural sector, plantations, and livestock, residents also rely on the results of nature. From natural sources, they can take forest products and catch fish. They also developed woven crafts made from Purun plants *(Lepironia articulata)*. The economic infrastructure in Jambu Baru Village in the form of grocery stores those are open every day, while the market can only be found once a week.

– **Source of Conflict**

The natural resource conflict that occurred in Jambu Baru Village stems from the decision of the district government to open investment in oil palm plantations in swampy areas, which are considered abandoned and unproductive land. By being used as a plantation, it can open jobs for people around plantations who originally worked in the agricultural sector and depend on natural wealth. But the residents of Jambu Baru Village dismissed the notion that the land that is considered a sleeping land is not less productive land. They actually argue that in the sleeping land those residents can look for Galam (Melaleuca cajuputi), fish, Purun (Lepironia articulata), rattan, and others, so that if they enter oil palm plantations it would destroy everything (Imantoko, Sunkar & Santosa [12]). If all has been destroyed, then there was nothing that the citizens can do. It is the people who should enjoy the development advantaging.

Before the entry of oil palm plantations, the residents of Jambu Baru Village did depend on the source of their lives from natural products. Natural environmental conditions in the form of rivers, swampy areas, and peat lands that are widely spread have provided a source of livelihood for the surrounding residents. According to the research results from (E. N. Setiawan, Maryudi, Purwanto & Lele [23]) on the Local Wisdom of Dayak Bakumpai People in wetlands, it can be known that throughout the dry season and rainy season, swamp land remains the focus of life expectancy for its citizens. In addition to farming, the work in question can be seen in the following table.

Table 4. – Livelihoods of Jambu Baru Villagers

No.	Type of work	Dry Season	Wet Season
1.	Harvesting fish from *Beje*	v	–
2.	Catching fish from a river	v	v
3.	Hunting a *purun*	v	v
4.	Weaning mats	v	v
5.	Looking for rattan	v	v
6.	Cutting down *Galam*	v	v
7.	Taking forest products	v	v

Source: (E. N. Setiawan et al. [23])

Bases on the livelihood table of residents, it can be known that in the dry season, they can harvest fish from *Beje* (a kind of pond to maintain fish naturally), look for *Purun (Lepironia articulate)*, weave mats, look for rattan, and cut down *Galam* trees *(Melaleuca cajuputi)*; While in the rainy season, residents can catch fish in the river using various traditional fishing gear, looking for *Purun (Lepironia articulate), Galam (Melaleuca cajuputi)* and rattan. Both in the dry season and in the rainy season, residents can look for Purun (Lepironia Articulate), *Galam (Melaleuca cajuputi),* and rattan. The difference is in access to reach the location. If in the rainy season, to get to the location by using *Jukung* (one of the local designations for small boats that are rowed or engine), and the results can be transported by *Jukung* so that the work is easier to do; While in the dry season, to get to the location have to take a step, the results must be carried so that the results obtained are less, but the work becomes more heavy. Whether the operation of oil palm plantations will improve the welfare of the surrounding residents, or quite the opposite, surely it needs more research in the future.

By opening of opportunities for investors to invest in the agricultural and plantation sectors, there has been liberalization in this sector. Theoretically, the policy would open up jobs for residents around plantations, which could ultimately improve the well-being of citizens. Related to liberalization in the agricultural sector, (Warr [29]) had conducted studies on agricultural liberalization, poverty, and inequality, with the case of Indonesia and Thailand. The liberalization of agriculture has produced effects that are not in line with expectations, namely increased production and increasing skilled labor, and will reduce inequality. The study found the opposite, both for agriculture and overall liberalization, in the overall protection pattern of unskilled labor and soil. Nonetheless, liberalization has succeeded in reducing absolute poverty, in both agricultural and non-agricultural households, increasing relative wages for unskilled labor although not are as large as increase in wages for skilled labor. In Thailand, agricultural liberalization has a greater effect than in Indonesia. Nonetheless, agricultural liberalization has reduced poverty in both countries and across all socio-economic groups.

In essence, the purpose of development is for the prosperity of the community so that the results can be enjoyed by all citizens. (Cuthill & Jansen [7]) was apllied this term expansion of the space of independence that seen as the primary goal (constitutive role) and the most important way (instrumental role) of development. The constitutive role of independence is the real freedom in an effort to improve human life, while the instrumental role interprets independence and human rights as elements that support economic progress. To achieve economic progress, citizens can use the most suitable instruments used. Economic instruments that have been helping them in making ends meet. Such economic instruments that need to be maintained, but can be modified in accordance with the times.

Differences in the way of looking at the land have caused differences in interests between local governments and communities. In addition, the vagueness of the status of the land also adds to the problem. From the results of studies on palm oil expansion in Southeast Asia, found a pattern common in all areas where large plantations are being built, namely that land is obtained almost without respect for the rights of indigenous peoples or respect for those who have utilized land before (Kushairi et al. [15]) In the end, it was the problem that led to hatred that led to land conflicts.

To observe at the source of the conflict, it is difficult to find that there is only one source of conflict. In a conflict, there can be various sources of conflict. (Allen [14]) had conducted a study on violence that occurs in Melanesia with respect to environmental issues. From the study it can be known that the source of conflict is a matter of ideology / values, interests, and structural. According the theory from (Jain, Majumdar & Mukand [13]) who looked at conflict in relation to state capacities as well as political dynamics, found identity/social psychology and structural problems as sources of conflict. In addition, (Herdiansyah, Soepandji, Seda & Dewi [10]) mentioned that conflict management related to natural resources on the border between Indonesia and Malaysia. Differences in interests and structural problems are the source of conflict.

From various cases of conflict that occurred in Indonesia, (Stepanova, Polk, & Saldert [26]) had identified that the sources of conflict in Indonesia can be grouped into five sources, namely: 1) structural conflicts, including inequalities in access and control of resources, unfair policies, arbitrariness in making decisions; 2) conflicts of interest, in the form of gratification of needs and ways to fulfill that they have been at the expense of others, as well as the occurrence of unfair competition in the political, social, and cultural fields; 3) conflicts of values and customs, where there are differences in values, ideologies, customs, and implementation of religious values; 4) conflicts of psychological social relationships, due to prejudice, stigmatization, and stereotypes; and 5) data conflicts, caused by differences in views, differences in interpretation, lack of information, mis-communication, and falsification of history. Of the various conflicts that occur in Indonesia, rarely caused by a single source, most sources of conflict are multiple.

– **Dispute Resolution**

The dispute began when Barito Kuala Regency Government opened the door to investment for oil palm plantations. PT Tasnido Agro Lestari (TAL) has obtained permission to manage 8.000 hectares, but the Area of Jambu Baru Village is not included. But the residents of Jambu Baru Village stated that land clearing activities had penetrated into their territory, so there was a conflict between residents and the company. According to residents, the land that has been penetrated by the company reaches an area of 30 hectares.

In addition, the vagueness of the territorial boundary between Jambu Baru Village, Kuripan Sub-District (not included in oil palm plantation concession land) and Balukung Village, Bakumpai Subdistrict (including in oil palm plantation concession land) further complicates the situation. Parties who are competent with the administrative problems of the territorial boundary itself do not know in detail the boundary between the two neighboring villages, so it is not yet certain the extent of the area affected by the oil palm plantation (Abram et al. [2]). Therefore, the legislature suggested that a remapping of the boundary between the two villages and bringing together the officials of the two villages, so that the problem does not become protracted.

Local government policy provides investment permits, but has not been accompanied by the completion of regional boundary administration can complicate the situation. The case shows that without a satisfactory solution of the interested parties, it is possible to have a vertical and horizontal conflict. Vertical conflicts can occur between residents affected by local government policies and policymakers;

while horizontal conflict can occur between residents of two different villages and Sub-Districts in fighting over territorial boundaries. According the theory from (Herdiansyah et al. [10]) on conflict management related to natural resources with a sustainable environmental approach on the Indonesia-Malaysia border found that there are conflicts that are vertical and horizontal. Moreover, (Rukanova, Wigand, van Stijn, & Tan [21]) which looked at management perspectives from various levels in understanding transnational information systems, found that the nature of conflict can be vertical or horizontal. In the case of the village, mediation is required to resolve the dispute.

In the resolution of a conflict, it is possible to use negotiation, mediation, or intervention, surely with varying consequences. Three specific approaches to conflict resolution are negotiation, mediation by third parties, and official intervention (Sokolić [25]). Negotiation is a form of social interaction between several parties that aims to reach a mutual agreement that is considered to benefit the negotiating parties. Mediation is a peace process in which the parties to the dispute submit their settlement to a mediator (someone who arranges a meeting between the parties to the dispute) to achieve a just end result, at no great cost but still effective and fully accepted by both parties to the dispute. Intervention is an attempt to interfere, influence, and even control the other party with the aim of realizing certain goals against the intervening party.

In this case, mediation was conducted at Regional Representatives Office of Barito Kuala Regency, through a hearing between the company, representatives of the Barito Kuala Regency Government, residents of Jambu Baru Village, and the Chairman of Commission III of the Regional Representatives of Barito Kuala Regency. From the results of mediation, three points of agreement have been agreed by both parties to the dispute, namely: 1) The village community rejects all oil palm plantation activities that are included in the area of Jambu Baru Village; 2) The Company is required to return the area that has been worked on approximately 30 hectares, and returned its function as before; and 3) Whatever the result of the boundary between Jambu Baru Village and Balukung Village, an area of 30 hectares should not be worked on by plantation companies.

Along with these three points of the agreement, the dispute between the residents of Jambu Baru Village and the oil palm plantation company can be resolved. In addition, the resolution of the dispute is still not complete, given that residents still have to wait for a decision on whether the disputed area goes into their village or to a neighboring village. If entering a neighboring village then formally the company has the authority to manage the area based on the permits obtained. If that's the case, it's likely that the dispute will continue.

A legislator who mediated the resolution of the problem instead asserted that the local government needed to evaluate the existence of oil palm plantations, considering that the contribution received by the region and the community was not balanced with the impact received by the region (Mu & Bobocel [16]). The impact in question is, such as the unhalt opening of cooperatives, labor absorption, unkempt plasma plantations, as well as classical problems that harm society. Residents cannot do major jobs, such as farming, looking for Galam wood, and looking for fish, because the land has been damaged by palm oil crops. In addition, the condition of the road is also easily damaged, because it is crossed by large-scale palm oil transport trucks compared to the available road capacity.

– **The Use of Symbols in Resistance**

In an act of rejection carried out by representatives of citizens to the Regional Representative, they used a headband called Laung Bahenda as a symbol of resistance. Laung or yellow headband has been used by fighters along the Barito Raya Watershed since the Dutch colonial era (Buskens & Kommers [5]). Yellow its-self is a color that is sacred by the people in the South Kalimantan region. By using

such symbols it can be interpreted that they are fighting for the interests of the citizens.

Symbols can be interpreted variedly by each actor in social interaction. If the symbol is interpreted negatively it can form prejudice and hostile action. According to the theory from (Abbott [1]) that mentioned Herbert Mead was one of the pioneers of the tradition of symbolic interactionism. Mead's thoughts, outlined in the book Mind, Self, and Society, published in 1934, are important works in the tradition. (Ritzer & Smart [19]) explained that the mind is the process of a person's conversation with himself, not found within the individual; it appears and develops in social processes, making it an integral part of the social process. Self is a special ability to be a subject or object. The self emerges and develops through activity and between social relationships. The self is dialectically related to the mind. It is further explained that society is a relentless social process that precedes the mind and self. In shaping the mind and self, the role of society is very important.

Adherents of symbolic interactionism base their thinking on three premises, as presented by (Carter & Fuller [6]) in the Journal Article of Symbolic Interactionism. The premises are the first premise, that man acts on objects based on what they mean to them; the second premise, that the meaning of the objects is acquired or arises from the social interactions carried out by one human being with another human being; and the third premise, that the meanings are spoken of and modified through interpretive processes used by people in the face of objects encountered (Ritzer & Smart [19]).

In addition to these three premises, there are other implicit assumptions that help provide structure and guide the perspective of symbolic interactionism. These assumptions are: 1) people are distinctive beings because of their ability to use symbols, 2) people become distinctive beings through their interactions, 3) people are conscious and self-reflective beings who actively shape their own behavior, 4) people are purposive beings who act in and against situations, 5) society consists of people engaged in symbolic interactions, and 6) to understand human social action, we need to use methods that make it possible to see the meaning that connects man to his actions (Ritzer & Smart [19]).

In Mead's thinking, significant symbols have an important role to play. Significant symbols are a type of motion or gesture that can only be created by humans. Significant symbols allow people to become stimulators of their own actions. The function of significant symbols is to make it easy for individuals to adapt their behavior to the others. In Mead's theory, another significant function of symbols is to allow the mental process of thinking (Ritzer & Smart [19]). It also allows symbolic interaction, where people can interact not only through gestures, but also through significant symbols.

In a social interaction, humans learn their symbols and meanings. They respond to symbols by way of thinking. (Aksan, Kisac, Aydin, & Demirbuken [3]) argued that 'symbols are social objects used to represent or replace whatever the person they are going to represent' (Ritzer & Smart [19]). Not all social objects can represent something else, but social objects that can replace something else are symbols. Symbols are important aspects that allow people to act in the typical ways performed by humans. Therefore, people often use symbols to communicate something about their own traits.

In general, the main themes of the theory of symbolic interactionism are creative individuals, language (symbols), actions and between actions, environments and situations, and meaning (Seybold [24]). In the social world, individuals are the main, always creative element to create a particular language that is actualized through various forms of action in the context of certain environments and social situations. The action becomes a symbol that is interpreted by oneself, and is intended for an environment consisting of various different individuals who also give meaning in the form of action responses.

The impact of meaning and symbols on human action and interaction is the center of attention theorists of symbolic interactionism. Symbols and meanings give special traits to human both of social action and social interaction. Basically, in performing an action, an actor will try to take into account his influence on others involved. Thought processes involving symbols and meanings are hidden behaviors (Ritzer & Smart [19]), while outward behavior is the actual behavior of an actor. Mead distinguishes between outward behavior and hidden behavior, where hidden behavior receives great attention from the theoretical interactionism of symbolisms. Nonetheless, most human actions involve both types of these behaviors.

From all the above explanations, the source of the conflict to the settlement process can be described in the following scheme.

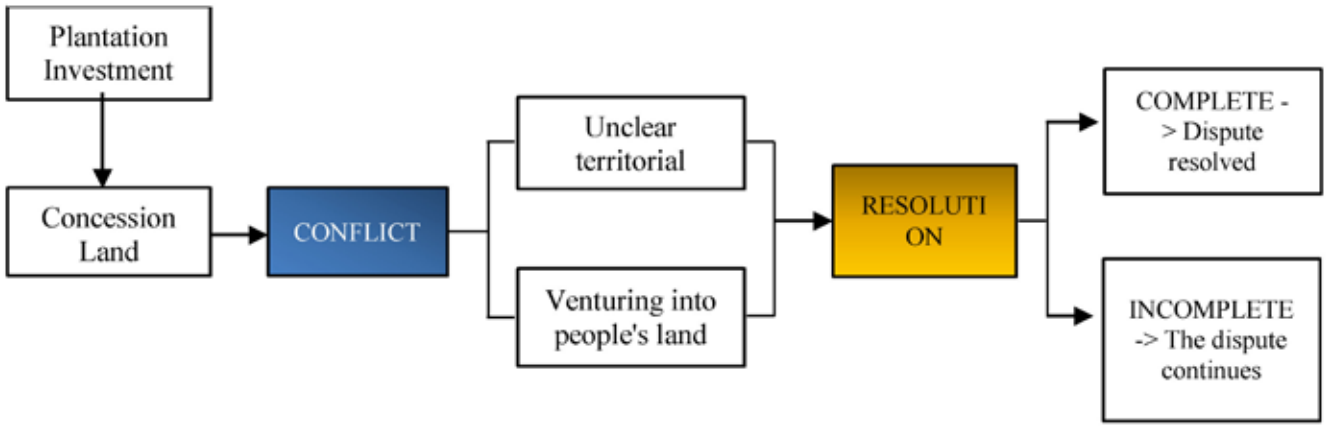

Figure 1. Theoretical Framework

IV. Conclusion

Conflicts that occur are structural conflicts, because there has been inequality to access and control natural resources. In addition, there is also a conflict of interest, because the authorities who have formal authority have set policies unilaterally that benefit certain parties, but harm others. To show rejection of the entry of oil palm plantations, residents use the yellow headband symbol. Through mediation disputes between residents and plantation parties can be resolved, although the settlement is still not completed.

This article still has many weaknesses, considering the various obstacles and limitations that the author faced early. However, with this limitation can be followed up with more intensive research, which can explore other factors so that more comprehensive data can be obtained why residents protest to reject the presence of oil palm plantations, when other villagers actually want to follow the plasma palm oil program in an effort to improve family welfare. Whether this has to do with the status of the stages of family are welfare dominated by The Prosperous Family II, or related to the gender ratio of more female population than men. The limitations of research can also be seen from the methods used.

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COMPETITIVENESS OF TUNISIAN OLIVE OIL EXPORTS IN A CHANGING WORLD MARKET: A SHIFT SHARE ANALYSIS

Abstract. The present work aims to analyse the competitiveness of olive oil exports on the world market with a shift share model. A decomposition of export growth was carried out to identify influencing factors on Tunisian export performance: the overall growth of imports (structural effect), the domestic export potential (differential effect) and the ability to maintain its constant market share (competitive effect). Shift share results applied on ten imports markets between 2003–2017 show that Tunisia has lost its competitive position on the European and the American markets since 2006 with relative resurgence from 2012. However, a better competitive position was found on the Canadian, Japanese, Brazilian and Gulf countries markets. The Tunisian competitiveness has been heavily hampered by the European Union protection agricultural policies, by the irregular conditions of domestic supply and significantly influenced by the world imports growth of olive oil. In this regard and to achieve its maximum potential of export of olive oil, there is an urgent need for Tunisia to adapt to the demands of the new countries and their requirements in terms of quality, certifications and regularity of domestic supply.

Keywords: Olive oil, competitiveness, exports, Shift-Share, Tunisia.

Introduction:

Traditionally, the international production of olive oil sector was concentrated in the Mediterranean region and a global widespread demand that counts today no less than 180 countries in the five continents. The world olive oil production was estimated at 3.5 million tons in 2019 throughout the Mediterranean region and covering 79% of world production and contributing for more than 70% of the world's exports [1]. The European Union counts for an average of 57% of world olive oil production and ranks first in world exports providing the half of total imports. In the second place, South Mediterranean producers hold significant shares of global production including Tunisia, Syria, Morocco and Jordan which cover together more than 25% of world exports. Since 2000's, the structure

of world olive oil market has undergone a real change associated to the emergence of new producers outside Mediterranean region and the new geographical distribution of consumption for this product, which increased more rapidly in high income countries (8 to 10%) against a stagnation of 2 or 3% in traditional Mediterranean countries.

European share on olive oil world imports declined from 65% in 2003 to 52% in 2020 while United States of America (USA) became the second largest importer of this product with a share of 38% in 2017, Canada, Brazil (8%) and Japan (7%) in total imports [2].

Following this new distribution of olive oil demand, the increased liberalization of agricultural trade and the strongly competition of other seed oils in the global consumption (95% of world oil consumption), traditional producer countries are facing increased competition in world market.

For Tunisia, the second important producer and exporter of olive oil behind EU and a traditional supplier of EU market (75% of its extra UE imports), this new context of international olive oil market had substantial impact on the performance of this sector. Several studies have confirmed the problem of Tunisia's loss of competitiveness in the olive oil market in spite of its higher specialization of exports [3; 4; 5; 6; 7; 8; 9]. Thus the question that arises today for Tunisia concerns the optimal diversification of markets that will provide benefits for its olive oil exports.

Therefore, this work aims to analyse Tunisia's competitiveness in world olive oil market through the identification of determining factors which had impact on exports behaviour. The shift share approach applied decomposes export competitiveness into three factors: import global growth, domestic export potential in Tunisia and capacity of this country to maintain a constant share market compared to its main competitors. Ten olive oil import markets from Tunisia are considered in this study (EU, USA, Canada, Japan, Brazil, Australia, Emirates, Saudi Arabia, China and India) and five main competitors of Tunisia (Spain, Italy, Greece, Portugal and Turkey). This study covers the period 2003–2017 with data based on National Statistic's Institute (INS) and International Olive Council IOC. Finally, the study attempts to propose measures to improve the competitive position of Tunisian olive exports.

I. Vision of Tunisian olive oil exports:

Tunisia is the country of the South of the Mediterranean most known in the field of the culture of the olive trees and the export of the olive oil, after the European Union. Olive growing is for Tunisia the main agricultural activity that contributes to the reduction of poverty through the creation of employment, and guarantees a certain level of food security for the country. Moreover, it is a generator of international currency, which contributes to the improvement of the food trade balance to cover an import bill [10].

The average production of Tunisia is 200 thousand tons, but it's characterized by a fluctuation due to climatic conditions. However, the Tunisian olive oil exports recorded during the last years very variable levels passing from 70.000 Tons (recorded in 2002, 2003 and in 2014) to 300.000 Tons in 2015 when Tunisia was situated as world leader (35% of the world olive oil market).

The Tunisian olive oil exports are mainly destined to the EU and USA (figure 1), but its share in these markets has decreased from an average of 18% to stabilize at 9% in EU and from 10% to 8% in USA (table 1).

This change is accompanied by an increase in others markets. Indeed, the Tunisian olive oil has been able to conquer, more than 57 new destinations and its shares have increased namely in Canada, golf country and in Asia (table 1) which are main destinations for packaged Tunisian olive oil.

These developments have been accompanied by several policies and trade agreements, including the Complete Free Trade Agreement (ALECA) which benefits Tunisian exports to the EU market a quota of 56700 tons accorded in 2007. In addition, the Tunisian policies have given a high priority to the export of olive oil while promoting the import of seed oils and subsidizing their price to consumption.

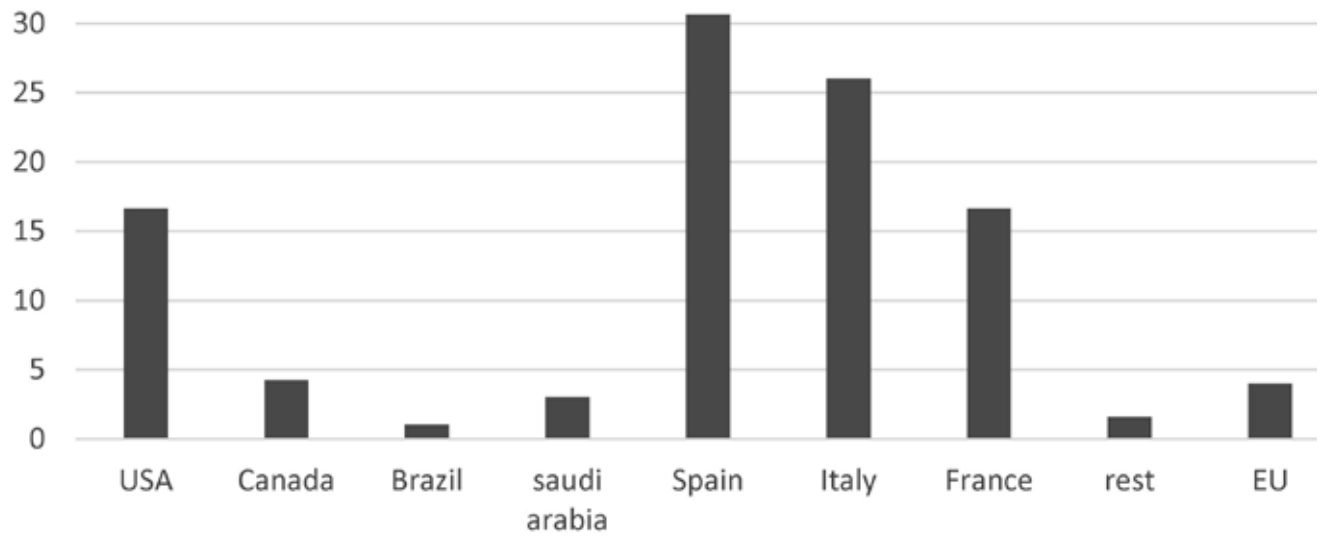

Figure1. Shares in Tunisian olive oil exports by destination in 2019 (%)
Source: own elaboration from Trade Map data (2021)

Table 1.– Olive oil market share of Tunisia in its main market

	2003–2006		2008–2011		2014–2017	
	Quantity (tons)	**Market share**	**Quantity (tons)**	**Market share**	**Quantity (tons)**	**Market share**
EU	377421	18	265457	7	346735	9
USA	8024	4	24962	10	25056	8
Canada	525	2	1344	4	3197	8
Emirates	100	16	712	9	930	9
Saudi Arabia	158	3	558	6	1255	9
China	144	1	164	2	160	2
Australia	60	0	7	0	494	2
Brazil	82	0	63	0	283	1
Japan	90	0	10	0	130	1
India	0,5	0	7	1	4	0

Own elaboration from Trade map database

Methodology:

Competitiveness has been measured in empirical analyses using different approaches based on micro-economic, macroeconomic and international trade theories.

The preferred approach in recent ((Landesmann, 1996; Tefertiller and Ward, 1995; Ferto and Hubbard, 2001; Yilmaz, 2003; Polymeros, Tsakiridou and Mattas, 2005; Utkulu and Seymen, 2004; Lyford and Welch, 2004; Banterle, 2005). studies is based on measuring competitiveness using the concept of revealed comparative advantage RCA introduced by Balassa in 1965 which provides useful information on trade prospects and is an indication of a country's specialization in specific commodities [11].

Moreover, although the RCA indicator sheds light on the level and evolution of a country's competitiveness, it does not identify the factors influencing its

competitive position on the international market. Thus, this work proposes to deepen this analysis by identifying the factors on which depends the performance of Tunisian exports of olive oil through Shift-Share analysis (SSA) called also a Constant share market approach (CMSA). A decomposition of olive oil trade flows is carried out to identify the main sources of change in EU olive oil imports and non-European ones from different countries. Sources of change in Tunisian's olive oil exports are associated with its international competitiveness, the relative openness of import market, degree of trade preference, and the olive oil global import growth [12].

The shift-Share Analysis (SSA) technique has its origins by [13] and was initially uses by [14] to measure economic growth in regions and industrial sectors [15].

A small modification in its calculation methodology resulted in a classic SSA variable called Constant Market Share Analysis (CMSA). This variable eliminates the calculation of the overall effect of the traditional version and incorporates a mixed factor, which cannot be distinguished between "production" and "know-how", because of the interdependence between both of them [16].

The classical SSA was based on the assumption that a change in a country's exports can be explained by determinant factors such as the growth of world trade, export destinations or the composition of the product which can affect the competitiveness of a country [17].

Recent applications of SSA distinguish three influencing factors in trade export evolution: the overall growth of imports on each market (structural effect), the domestic export potential (differential effect) and the ability to maintain its market share (expansion effect), [18].

Shift share model (SSA):

In Tunisia, the SSA was applied to analyse the competitiveness of Tunisian dates on the European market [3] and in other studies to explain the competitiveness of Tunisian olive oil on three markets, European, Canadian and American between 1997 and 2006 [19].

Therefore, this work aims to analyse Tunisia's olive oil exports competitiveness through the identification of the main determining factors which have effects on Tunisian exports in each of its different markets (EU, USA, and other new importing markets).

This analysis concerns period 2003–2017 which has been decomposed into three sub-periods; 2003–2007, 2008–2012, 2013–2017 in order to understand the different mutations and the factors affecting the olive oil export's evolution.

To measure the variation of the quantity of Tunisian olive oil exported between two period's t_1 and t_2, the SSA method is expressed as follows:

$$\Delta VE = VEt_2 - VEt_1$$

This variation is divided into three components V_1, V_2 and V_3 where:

$$\Delta VE = V_1 + V_2 + V_3:$$

With,

ΔVE: Variation of the quantity exported of olive oil from Tunisia between t_1 and t_2

V_1: structural effect: is the variation in the volume exported by Tunisia due to total imports of each market M, calculated as follows:

$$V_1 = \Sigma(m_{1i} - C_1)\, M_{2i} \qquad (1)$$

V_2: Differential effect: is the variation between the volume exported by Tunisia during the second period t_2 and what would have been exported during this period if the shares in each market of the first period t_2, calculated by the followed formula (2):

$$V2 = \Sigma(m_{2i} - m_{1i})M_{2i} \qquad (2)$$

V_3: Expansion effect: is the difference between what Tunisia exported during the first period, and what would have been exported during the second period, in order to maintain the same overall market share.

$$V_3 = C_1\Sigma(M_{2i} - M_{1i}) \qquad (3)$$

M_{1i} total imports from market i in the first period

M_{2i} total imports of market i in the second period

X_{1i} imports of market i from Tunisia in t_1

$X_{2i:}$ imports of market i from Tunisia in t_2

$m_{1i:}$ share of Tunisia on market i at $t_1 = X_{1i} / M_{1i}$

m_{2i}: share of Tunisia on market i at $t_2 = X_{2i} / M_{2i}$

$$C_1 = \Sigma X_{1i} / \Sigma M_{1i}$$

$$C_2 = \Sigma X_{2i} / \Sigma M_{2i}$$

III.Results and Discussion:

3.1 Period 1: 2003–2007

SSA applied during the first period shows that the global share of Tunisian exportations of olive oil has increased from 3 to 12% between 2003–2007 (table 1).

Table 2.– Olive oil imports between 2003–2007 (in tons)

	2003			2007		
	Total imports	**Imports from Tunisia**	**Tunisia's share%**	**Total imports**	**Imports from Tunisia**	**Tunisia's share%**
EU	837889	37219	4%	966846	142981	15%
USA	188506	1458	1%	253584	20433	8%
Brazil	21395	0	0%	35458	303	1%
Japan	30772	13	0.04%	28345	5	0.02%
India	904	0	0%	1915	0	0%
Canada	24937	251	1%	34195	940	3%
Saudi Arabia	8569	224	3%	9348	727	8%
Emirates	5104	122	2%	7900	1255	16%
Australia	36191	21	0%	53137	34	0%
China	761	0	0%	7124	42	1%
Total	1155028	39308	3%	1397852	166720	12%

Source: Own elaboration based on FAOSTAT data and Trade Map, 2020

Tunisia's exports increase is due to the growth of imports in the European, American, Canadian, Brazilian, Chinese and Emirati markets with a decrease of Japanese world market share. The decomposition of the variation (table 2) shows that the main influencing factor is the differential effect (90.94%), in other words the Tunisian competitiveness during this period depends on domestic export potential.

Table 3.– Decomposition of exports variation between 2003 and 2007

V_1	V_2	V_3	ΔVE
3793,2	120991,2	8263,8	133048
2.85%	90.94%	6.21%	100%

V_1: the structural effect; V_2: the differential effect; V_3: the expansion effect

The negative values of the structural effect of all markets except the European ones, indicates that performance of Tunisian exports depends on the olive oil EU imports growth which is significant during this period characterized by a decrease of Spanish, Italian and Turkish exports due a decline of their production during this period [1]. (Table 3).

Table 4.– Results of the decomposition of the total effect 2003–2007 (in tons)

Market	**Structural effect**	**Differential effect**	**Expansion effect**
1	***2***	***3***	***4***
EU	13941.89	100033.74	3868.71
USA	–5646.17	18471.65	1952.34
Brazil	–1063.74	303	421.89
Japan	–838.38	–6.97	–72.81
India	–57.45	0	30.33

1	*2*	*3*	*4*
Canada	–681.66	595.81	277.74
Saudi Arabia	–36.08	482.67	23.37
Emirates	–48.17	1066.17	83.88
Australia	–1563.28	3.17	508.38
China	–213.72	42	190.89
Total	3793.2	120991.2	8263.8

Source: Own elaboration based on FAOSTAT data and Trade Map, 2020

High values of the expansion effect with EU and USA markets show that the Tunisian exports during this period were still targeting the European and American markets. However negative values of the differential effect (–6.97T) calculated in Japanese market indicates the orientation of Tunisia's exports to the Canadian (V_2 = 595.81tons) and Emirati (V_2 = =1066.17 tons) markets which are potential markets for packaged olive oil that seems obvious after the various government incentives allowed to exports in bulk since this period.

Tunisia seems to take full advantage of its quota granted by EU in the DCFTA agreement since the beginning of 2000's. This result was also confirmed by other studies during the period (1997–2006) on this market compared to non-European competitors namely Syria, Argentina and Chile, while highlighting their higher growth rates compared to that of Tunisia [19].

3.2 Period 2: (2008–2012)

The total Tunisian exports of olive oil have decreased by 9% between 2008 and 2012 (161 MT to 145MT). This regression is mainly due to the fall of its share in the European market (from 14% to 9%) associated with an increase of all other competitors market shares (Spain, Italy, Greece and Turkey). However this regression in EU positioning seems to be compensated by an better performance in USA, Canadian and Emiratis' markets (table 4).

Table 5.– Olive oil imports between 2008–2012 (in tons)

	2008				**2012**	
	Total imports	**Imports from Tunisia**	**Tunisia's share%**	**Total imports**	**Imports from Tunisia**	**Tunisia's share%**
EU	946344	133348	14%	1082662	100372	9%
USA	243594	25397	10%	306790	39630	13%
Brazil	42775	127	0%	73493	21	0%
Japan	29630	2	0%	46407	53	0%
India	2982	0	0%	9228	76	1%
Canada	32775	1253	4%	40134	1967	5%
Saudi Arabia	9770	317	3%	19164	1109	6%
Emirates	8042	588	7%	12777	1178	9%
Australia	30593	40	0%	33373	23	0%
China	10179	44	0%	41276	1396	3%
Total	1356684	161116	12%	1665304	145825	9%

Source: Own elaboration based on FAOSTAT data and Trade Map, 2020

To maintain the same global market share, the results show that the change in Tunisian exports between 2008 and 2012 should have been equal to V_3=36650.8486 tons. This is due to the imports growth of all markets (V_1: 77%) from which Tunisia has not well benefited on one hand and the decrease of exports by (17360.6 tons) on the other hand which explain the negative value of V_2 (Table 5).

Table 6.– Decomposition of exports variation between 2008 and 2012

V_1	V_2	V_3	ΔVE
–11760.6	–42250.9	36650.9	–17360.6
77.74%	243.37%	–211.11%	100%

V_1: the structural effect; V_2: the differential effect; V_3: the expansion effect

The structural effect, which is represented by negative V_1 = –11760.5836 tons, indicates that the imports growth of each country is inadequate to the distribution of Tunisian market share from 2008. In other words, the Tunisian global market share is no longer appropriate to the new geographical distribution of demand from 2012. The decomposition of each effect (Table 6) highlights the Tunisian strategy to diversify its olive oil export's destinations to America, Canada, Japan, China and golf countries shown by their positive differential effect values. The loss in competitiveness of Tunisia on its traditional markets mainly EU and USA during this period, is mainly due to high competition of European supplier in both markets (more than 60% of total imports) combined with a decrease of Tunisian production between 2012–2014 and its irregular levels (70 Mt to 300MT between 2015–2017) due to the unfavourable climatic conditions and the drought experienced in the country for several years.

Table 7.– Results of the decomposition of the total effect between 2008 and 2012 (tons)

Market	Structural effect	Differencial effect	Expansion effect
Eu	22636,94	–52184,38	16358,16
USA	–4829,01	7644,21	7583,52
Brazil	–8600,96	–197,2	3686,16
Japan	–5565,71	49,87	2013,24
India	–1107,36	76	749,52
Canada	–3281,74	432,66	883,08
Saudi Arabia	–1677,88	487,2	1127,28
Emirates	–599,04	243,8	568,2
Australia	–3961,13	–20,63	333,6
China	–4774,7	1217,58	3731,64
Total	22636,94	–52184,38	16358,16

Source: Own elaboration based on FAOSTAT data and Trade Map, 2020

3.3. Period 3 (2013–2017):

Tunisian olive oil export's share on global markets decreased from 9% to 5% during this period (table 7). This decrease could be explained by a loss of Tunisian competitiveness on the European and American markets being the main customers of Tunisia despite its high level of olive oil exports registered in 2015 (300 MT). The improvement of the Tunisian position on the Canadian, Brazilian and Saudi markets confirms its new strategy of olive oil export market diversification.

Table 8.– Olive oil imports evolution between 2013–2017 (in tons)

	2013				2017	
	Total imports	Imports from Tunisia	Tunisian Market share%	Total imports	Imports from Tunisia	Tunisian Market share%
1	*2*	*3*	*4*	*5*	*6*	*7*
EU	1045985	109716	10%	1098695	64137	6%

1	*2*	*3*	*4*	*5*	*6*	*7*
USA	280650	30018	11%	305979	14135	5%
Brazil	71323	43	0%	59979	459	1%
Japan	51149	89	0%	54826	207	0%
India	11029	30	0%	9678	22	0%
Canada	36288	2633	7%	38701	4697	12%
Saudi Arabia	19680	1258	6%	23503	1927	8%
Emirates	13966	1417	10%	19557	1456	7%
Australia	26380	18	0%	27668	422	2%
China	36703	1041	3%	37151	263	1%
Total	1593153	146263	9%	1675737	87725	5%

Source: Own elaboration based on FAOSTAT data and Trade Map, 2020

The positive value of the structural effect (V_1) and the negative V_2 show that the evolution of Tunisian exports has not aligned with the new distribution of world demand (table 8).

Table 9.– Decomposition of exports variation (2013–2017)

V_1	V_2	V_3	ΔVE
4680.9	–67772.2	7581.8	–55509.5
1.026%	94.96%	6.05%	100%

Source: Own elaboration based on FAOSTAT data and Trade Map, 2020

During this period, although the Tunisian quantities exported to the EU have decreased, results show a positive value of the structural effect for this market (Table 9). This result is explained by the decrease in Spanish and Italian exports in 2014 and 2015 because of the bacterium *xylellafastidiosa* pandemic which damaged thousands of olive trees in both countries with drastic impact on their production [20] compensated by the high level of Tunisian production in 2015. Therefore, this results show that the variation of Tunisian exports to EU market depends significantly on the volatility of Spanish and Italian production. In addition to these two competitors, Turkey has taken advantage of the decline in production of some Mediterranean countries between 2012 and 2017 [21] through the depreciation of the Turkish lira to strengthen its exports. Since 2012, Turkish exporters take advantage from different government incentives to access the European olive oil market such as subsides for brands and quality signs promotion and other marketing tools [21].

Table 10.– Results of the decomposition of the total effect between 2012–2017 (tons)

Market	**Structural effect**	**Diffferencial effect**	**Expansion effect**
EU	16362,3	-51107,9	4743,9
USA	5189.05	–18592.16	2279.61
Brazil	–5361.95	422.84	–1020.96
Japan	–4838.94	111.6	330.93
India	–844.7	–4.33	–121.59
Canada	–675.01	1888.92	217.17
Saudi Arabia	–612.9	424.62	344.07
Emirates	224.17	–528.27	503.19
Australia	–2471.24	403.12	115.92
China	–2289.88	–790.71	40.32
Total	4680.91	–67772.24	7581.81

Source: Own elaboration based on FAOSTAT data and Trade Map, 2020

From 2013, Tunisia has improved its competitiveness on the Canadian, Japanese, Brazilian markets and on the Golf countries, thanks to their growth imports. However, this market diversification seems to affect Tunisian competitiveness on its traditional markets.

Thanks to the raising of its quality standards and the development of high added value products, Tunisia can improve its competitiveness and the recognition of its oils on the world market. In fact, on average, 70% of the exported olive oil is extra virgin oil, and the share of packaged oils is increasing from 3% in 2002 to 10% 2020. In addition, the traditional markets of exports of packaged olive oil are more regular to Canada, Japan and the golf countries markets where Tunisia has improved its position during the last studied period.

Tunisian organic agriculture is increasing and has reached high levels in recent years (125.000 hectares that represent 40% of the total area cultivated organically). Tunisia is ranked the third largest organic olive area in the world and the first in Africa [22]. This performance of organic olive oil sector in Tunisia guaranties the improvement of its world position and facilitate introduction in new consumers countries such as Japan, Australia and Canada demanding certification and high quality [23].

Conclusion:

The main objective of this work was to analyse the competitiveness of Tunisian olive oil exports during the last twenty years in order to assess its positioning on the global import markets.

Results give indication of the relative influence of three factors that influences European and non-European imports of olive oil from Tunisia one of significant producers in the Mediterranean region, Tunisia. Growth of Tunisian olive oil exports to EU and USA, most important markets for Tunisia, has been attributed heavily to their total import growth. This has been found to have depended more on the UE's total production than the potential of domestic exports from Tunisia. So, Shift-Share approach applied in this study revealed a competitiveness loss of Tunisia's exports on those both traditional markets between 2008 and 2012 and 2012–2017 with a relative gain in its position in new consumer's markets (Asian countries and Canada) from 2013 but in small portions. Future expansion of Tunisian olive oil exports to these countries, with high level of income, can be expected to be linked to their economic growth and the favourable image of Mediterranean diet all over the world. Another result to be emphasized is the countervailing effect of a declining market share of Tunisia in EU markets in spite of its historical agreements and its preferences quotas showing the low effect of them. This suggests that Tunisia's prospects for a significant increase in olive oil production and exports have been penalized by UE agricultural protectionism. Indeed, world trade liberalization on a non-discriminatory basis in future might well confer benefits in terms of total exports that exceed those received by UE-preferred regions from preferential trade agreements on olive oil. In this regard and to achieve its maximum potential of export of olive oil, Tunisia is called to diversify its markets the recent free trade area with Arabian or African countries (Big Arab Free trade, African free Trade Area).

The growth performance of olive oil exports from Tunisia point to a significant role also played by domestic supply factors. Indeed, in period 2008–2012, the negative effect of differential factor was responsible of diminishing competitiveness in total markets. A better national market regulation is required to improve olive oil stocks management and to raise olive oil productivity in order to respond to international demand during low production campaigns.

As results showed, the potential of Japanese, Canadian, Brazilian, Chinese and Gulf countries markets for Tunisian olive oil exports, further competitiveness requires significant investments and quality certifications and the support of government to facilitate marketing and the establishment of Tunisian companies in these overseas markets. Government policies can also promote olive oil infrastructure facilities and support services,

including the dissemination of information on foreign markets, and improvement of quality standards. Nevertheless, it remains that Tunisia should also embark on a process of industrialization of the olive sector to increase its production and consequently the export of olive oil packaged with higher added value for actors in this sector.

The challenge today for Tunisia is to focus on improving its competitiveness-quality through the promotion of organic olive oil and the creation of Protected Geographical Indication (PGI).The success of this orientation remains dependent on more liberalization of this sector and improvement of physical and technological infrastructures in which the state plays a key role.

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IMPLEMENTATION OF VILLAGE FUNDS DISTRIBUTION: A PARADOX OR THE REGIONAL GOVERNMENT'S REGULATION OF CENTRAL JAVA PROVINCE

Abstract. This research aims to provide the management and system of village funds based on local government regulations that refers to (Pemerintah Republik Indonesia, 2014 b). The new hope and the essence of the main purpose of village development in the regulation aims to realize a strong, independent, advanced, democratic and prosperous village without losing its identity. The program aims to empower rural communities through the stimulation programs that are able to generate resources, opportunities, and knowledge as well as community skills to increase capacity in determining their future. In this study, the authors used qualitative research methods. This research is a type of descriptive research that contains a picture of situations and events, or includes ongoing processes and the influences of existing phenomena. In this study, informants as a source of information to obtain data and conduct interviews, in addition to documents that can support this research are policy actors *(stakeholders)* and village activists that have knowledge about the priority of using village funds used to empower communities in Central Java Province. The results show that the transfer of village funds in central Java Province directed to improve the welfare of rural communities through several fields, namely government, development and empowerment of village communities. The allocation of village funds is not only for the construction of physical infrastructure or physical development. The transfer of village funds is used for the field of community empowerment to community. So that village funds can be implemented thoroughly in, various fields that include the governments field, development, community empowerment and community development.

Keywords: Village Fund; Village Community; Central Java Province; Community Empowerment; and Village Activist.

Introduction

Based on the history of the village as outlined in the rationale explanation (Pemerintah Republik Indonesia, 2014 b) mentioned that juridical village whose existence has been recognized before the Unitary State of Republic of Indonesia was formed. This shows the position and village's role is increasingly important and strategic in the system of governance in Indonesia. The Ministry of Villages, Development of Disadvantaged Regions and Transmigrations of

Republic of Indonesia abbreviated as (Kemendesa PDTT) in its book New Village Regulation, Ideas, Mission and Spirit of Village Law (2015) outlines the direction and path of change to the new village has been outlined by the Village Law. The redistribution of State money (from the state budget and Regional Expenditure Budget) to the village, which is the right of the village, is a critical and political issue accompanying the hustle and bustle of the new government under the leadership of President Joko Widodo and Muhammad Yusuf Kalla during the period 2014–2019.

According to (Manan [10]) stated that the Village Law ensures space and money for the village. Space is called as *political space*, which includes the space of autonomy / independence (village power) and democratic space (people's power). The autonomy space (independence) or village power includes authority, decisions, initiatives, capabilities and self-management. The democratic space asserts that power is not only a monopoly of the village head but also a people's space incarnated in openness, accountability, responsiveness, representation and deliberation. The autonomy space and democratic space cannot be implemented without the presence of community participation, it is difficult to realize if the community does not have the power and empowerment of the community is impossible to be present in the implementation of village government without the empowerment of the community itself.

Empowerment had the meaning of generating people's resources, opportunities, knowledge and skills to increase capacity in determining their future (Hardina [6]). The main concept contained in empowerment is how to provide a broad opportunity for the community to determine for itself the direction of life in its community. Empowerment puts pressure on autonomous decision-making of a community group. The application of democracy aspects and participation with a focal point on locality will be the foundation for efforts to strengthen local potential. On this principle, community empowerment is also focused on strengthening individual community members and their institutions. The main approach in this concept of empowerment is to place society not only as an object but also as a subject.

The context of empowerment, actually contained elements of participation, namely how the community is involved in the development process, and the right to benefit from these results of development. Empowerment attaches importance to the recognition of the subject's ability or *power* possessed by the object. In outline, this process observes the importance of this process seeing the importance of switching individuals who were previously objects to be (Karlina, Rusli, Suryanto, & Candradewini [8]). In addition, according to (Pemerintah Republik Indonesia, 2014b) on village mention that the definition of Village Community Empowerment is an effort to develop community independence and welfare by increasing knowledge, attitudes, skills, behavior, abilities, awareness, and utilizing resources through the determination of policies, programs, activities and assistance. These are in accordance with the essence of the problems and priorities of village community necessity.

Village fund as one of implementation amendment based on (Pemerintah Republik Indonesia, 2014 b) about village Budgeted by the Government annually in Regional Expenditure Budget which is part of the central transfer fund policy to regions and villages. Based on data on budget, realization, utilization and impact of Village Funds during 2015–2019 classify four contradictions of priority provisions for the use of Village Funds. The first contradiction: The Village Fund is only to finance development and empowerment, thus ignoring the government and community development. In fact, based on the description above shows that the largest Village Fund is used for development while the three main obligations that must be funded using village funds have not received the attention properly.

Second contradiction: priority (Pemerintah Republik Indonesia, 2014 a) about Village Funds

sourced from Regional Expenditure Budget colliding and contradicting village financial management arrangements (RI, 2014) on implementation regulations (Pemerintah Republik Indonesia, 2014 b) about village. In the regulation confirms that all sources of village revenue are included in the Village of Regional Expenditure Budget, divided into 30% for operational expenditure (including the village government's fixed income, allowances, incentives, village government operations, BPD, and so on), while 70% is for public spending government, development, empowerment, and community. While according to (Pemerintah Republik Indonesia, 2014 a) this way directing the Village Fund only goes to the development and empowerment post in the composition of 70%. In practice in many regions and villages, where the Village Funds Allocation (ADD) is relatively small, the contradiction between the two Government Regulations causes difficulties and deviations.

The third contradiction, further contradictions are created by the Regulation of the Minister of Finance and Ministry of Villages, Development of Disadvantaged Regions, and Transmigration related to the use of village funds as well as regulations on the priority of the use of village funds. According to (Peraturan Menteri Nomor 14 Tahun 2015, 2015) And its successor, the priority is still open as direction and signpost, where the village still able to determine local priorities and be decided by village deliberation. However, the Regulation of the Minister of Finance PMK No. 247 / PMK.07 / 2015 on Procedures for Allocating, Distributing, Using, Monitoring and Evaluation of Village Funds adds to a clause that the priorities determined by the village should obtain the approval of the Regent / Mayor. The fourth contradiction, the priority of the use of village funds *top down* by the government is contrary to the provisions of the Village Law on village spending priority decisions by village deliberations. In accordance with the principles of *recognition, subsidiarity*, and democracy, as well as *hybrid* villages, the important things in the implementation of the village are decided together through village deliberation.

Literature review

To explain the problem of this study, researchers explore theories that are able to support and combine explanations about the paradoxical theme of using village funds. After discussing these theories then presented and observed previous studies related to village funds as reference material and comparison with the substance of the research that will carried out by researchers. These Theories, understandings, concepts, and previous research were used as academic references to analyze the Use of Village Funds in Community Empowerment in Central Java Province.

Paradox's Theory

Paradoxes mean statements that seem to contradict common opinion or truth, but in reality contain truth. Based on (Merriam Webster, 2016) paradox is defined as the principle of contradiction to accept an idea or opinion. Paradoxes make us think of something outside the common custom or outside the prevailing general view. Paradoxes highlight everything that is opposite (light-dark, masculine-feminine, life-dead), which is seen as interdependent, fluid, and natural (W. K. Smith & Tracey [20]). According to (Cunha & Putnam, 2019): "A key characteristic in paradoxes is the simultaneous presence of conflicting, even mutually exclusive elements." According to (W. Smith & Lewis [21]), Paradox is also called contradiction means to contain contradictions caused by paradox and/or irony.

Contradictions/Paradoxes according to the theory from (Hargrave & Van de Ven [7]) was a central fact about everything that exists. These contradictions gave birth to a dialectical law. The law of dialectics asserts that contradiction is at the core of everything, both in nature and in human life. From some of the descriptions of the definition above, researchers define paradoxes as contradictions, opposites, opposites between expectations and implementation. In the context of research on the use of village funds in community empowerment, this paradox is

paradoxically defined as something that does not fit between theories, concepts, goals and regulations in its implementation.

Public Administration Theory

The science of state / public administration is a science that studies the entire cooperation activities carried out by humans to achieve the goals that have been set. This cooperation activity is general and has existed since ancient times until now. This cooperation is two nature, namely cooperation to achieve personal goals *(private)* and cooperation to achieve public goals *(society)* (Caiden [2]). Therefore, the science of administration that is private is called private / commercial administration, and community-oriented is called public / state administration. Therefore, all concepts, theories and systems of administrative analysis used are also in commercial administration or state administration.

The purpose of the administrative implementation science aims to achieve effective and efficient goals. Then the activities carried out must be in accordance with what has been planned and have the best comparison between input and output. The study of administrative science is broader than other social science studies, because administrative science is a science that studies cooperation, where the cooperation is carried out by all levels of society in every activity it does every day. This extensive study has a logical consequence, which makes it difficult for us to set precise boundaries about what exactly explain in administration science (Wright [24]).

Administration is defined as a process or activity, business in the scope of government or state administration where experts give various statements as follows: (Siagian [19]) explained that Administration is the entire process of cooperation between two or more people based on a particular rationality to achieve a specific or predetermined goal. The second category group based on theory from (Raczyńska [16]), where they argued that administration is a neat and systematic written business activity carried out by humans to make relations between human beings in the form of agreements, and others. The third category group based on (Bryson & George [1]) where these experts argued that administration is an activity carried out by government agencies / State either low or high levels to achieve the goals of each of these government institutions.

The state administration has no identity and its uniqueness in limiting some of its larger concepts. It is one of a problem in the scope of administrative science. Although there were no universal principles in the science of administration (Thompson [23]) gave a strength reason to choose administrative science as the paradigm of commercial administration i.e. all organizations and managerial methodologies in general have certain patterns, characteristics and weaknesses. In this paradigm, the principles of management that were once popular are developed scientifically and deeply. The focus is organizational behavior, management analysis, and more.

Public Management Theory

Public management or also be called government management in general is an effort by the government in meeting public needs by using available facilities and infrastructure. The element of management is currently an important element in the organization, both organizations in the private sector and in the public sector such as government organizations. Management in the public sector appointed from private sector management does not make the orientation of objectives and implementation in public sector organizations similarly as the private sector. In the approach of managerial, strategic functions such as strategy formulation, strategic planning, and program making are things that should be execute by public managers. Public sector managerial oriented towards the fulfillment of objectives, the achievement of the vision and mission of organizations whose nature is long-term fulfillment (Raczkowski [15]).

To realize change towards a public management system that is oriented to the public interest and more flexible, (Teisman & Klijn 2008) identified at least three management functions

that generally apply in both the public and private sectors, namely:

1. Strategy functions, including: a) Setting organizational goals and priorities; b) creating an operational plan to achieve the objectives

2. Internal component management functions, including: a) Organizing and staffing; b) directing and management of human resources; c) performance control.

3. External constituent management functions, including: a) Relationship with external units of the organization; b) Relationships with other organizations; c) Relationship with the press and public.

Village Theory and Village Government

Etymologically the word "village" comes from Sanskrit, *deca* that means homeland, land of origin, or land of birth. From a geographical perspective, village is defined as *"a group of houses or shops in country area, smaller than town"*. Village is a unitary legal community that has the authority to take care of its own household based on the right of origin and customs recognized by the National Government and located in the Regency area. In the Great Dictionary of The Indonesian Language, a village is an area inhabited by a number of families that have their own system of government (headed by a village chief) or the village is a group of houses outside the city that is a unity (Dilahur [4]).

Moreover (Dilahur [4]) explained that Village in everyday life or in general is often termed as a village, which is an area that is located far from the hustle of the city, which is inhabited by groups of people whose livelihoods are mostly farmers. Administratively, a village is a region consisting of one or more hamlets that are combined to become a stand-alone area or govern their own household, which in the implementation of government we know by the term autonomy. In the implementation of government in the village, the authority to organize government affairs in the village is handed over to the village government, based on village regulations established by the village head together with the Village Consultative Agency (BPD) by involving the village community elements.

The definition of village according to (Pemerintah Republik Indonesia, 2014 b) stated Traditional villages and villages or what is called by other names, hereinafter referred to as Villages. A unitary legal community has territorial boundaries that are authorized to regulate and manage government affairs, the interests of local communities based on community initiatives, origin rights as well as traditional rights that are recognized and respected in the system of government of the Unitary State of the Republic of Indonesia. The regulation is expected to change many things in life of the Village Government and The Village Community is a regulation that regulates the source of village's income.

These sources of income, especially transfer funds, namely Village Funds (DD), Village Fund Allocation (ADD) and Regional Tax Revenue Sharing and Regional Levy (PDRD) are the recognition role of the Central Government to the existence of villages. These are executed by providing financing sources and this in particular village funds will be studied in more detail in the perspective implementation of priority policies for the use of village funds in the field of village community empowerment in Central Java Province. Villages in Indonesian state system are regulated in the amendment 1945 Constitution, at the same time showing the relationship between the State, village and residents is a very basic thing in the discussion of the Law on Villages. The initial construction that appeared in the discussion of the academic text prepared by the Directorate General of Village Community Development of the Ministry of Home Affairs in 2007 that the village is part of the area because decentralization only stops in districts / cities and villages receive the delegation of authority from districts / cities. Although the principle of recognition has been outlined in the academic text as a basis for placing a different village position according to its district.

Research method

In this study, the authors used descriptive research methods intended for exploration and clarification of phenomena or social realities. In answering the previous study, the aspect of *"depth"* became an important consideration in choosing and implementing research strategies. Referring to this problem, the right type of research is qualitative research. This research is a type of descriptive research that contains a picture of situations and events, or includes ongoing processes and the effects of existing phenomena (Hale [5]).

The method used is a qualitative descriptive method intended as a problem-solving procedure that is investigated by describing the state of the subject or object of the research (institution, society etc.) in the present day based on facts that appear or as a reality. To describe the facts at an early stage is to attempt to present the symptoms in full in the aspects investigated, so that the circumstances or conditions are clear (Salaria [18]).

The research locations are villages in Central Java Province by sampling. The location of the village selected as the specific location of the study was selected based on the highest and lowest grades of Building Village Index (IDM). After determined the location based on IDM of the highest and lowest sub-district, then from the sub-district selected again 4 (four) villages that can represent the sub-district, which has the category of Independent, Developed, Developing, and Lagging combined with data on the Number of Poverty People (JPM) in Central Java Province. In this study, informants that we can use as a source of information to obtain data and conduct interviews, in addition to documents that can support this research are policy actors *(stakeholders)* and village activists that have knowledge about the priority of using village funds used to empower communities in Central Java Province. While the data collection technique done through observation, interview, questionnaire, and documentation as well as a combination of these fourth aspects.

Result and discussion

Based on data from Rural Community Empowerment Office, Population, and Civil Records of Central Java Province show that village funds transferred in 2015 amounted to 2.23 trillion Rupiah in a year or on average 285.43 million Rupiah per village. Then in 2019, experienced significant increases amount 7.89 trillion Rupiah or 1.009 billion Rupiah in a year. The amount of village funds transfer in central Java Province is directed to improve the welfare of rural communities through several fields, namely government, development, empowerment of village communities and communities. In addition, village funds are transferred to Central Java Province as an allocation of village governments to increase the village building index.

The allocation of village funds is not only for the construction of physical infrastructure or physical development. In addition, the transfer of village funds is used for the field of community empowerment to community. So that village funds can be implemented thoroughly in various fields. The use of villages includes the field of government, development, community empowerment and community. The categories of villages are dividing into four, namely villages left behind, developing villages, advanced villages and independent villages. The village category is measured based on the Building Village Index. The higher index of villages building is the more categories of villages concerned.

Central Java Province during the period 2015–2019 has village funds with a total of 26.6 Trillion Rupiah. With the absorption is amount 98% to 100% annually. This condition shows that Central Java Province can use funds optimally. The use of village funds during the period 2015–2019 emphasizes two things, namely supporting the economic activity of the community and supporting the life's quality of the village community. In detail, supporting economic activities in the community is done through building village roads, building bridges, building markets, building Village-Owned Enterprises, building boat

moorings, building convex, building irrigation and building land anchoring. Then in detail supporting the quality of life of the community is done with several things, among others: the construction of sports facilities, the provision of clean water, the development of public rest room, the development of Village Maternity Clinic, drainage development, the development of Early Childhood Education and Development, the development of Integrated Healthcare Centre and wells.

The majority dominance of the use of village funds is physical development. While village funds not only stop at physical development, but also need community empowerment. The description of village fund distribution can be illustrated in the table below.

Table 1.– Budget for Improving the Economic Welfare of Rural Communities

No.	Sub-Districts	Villages	YEARS				
			2015	2016	2017	2018	2019
1.	Cilacap	284	–	–	1.416.881.900	1.699.055.200	525.965.900
2.	Banyumas	331	–	–	2.427.485.013	2.142.324.601	4.392.816.042
3.	Purbalingga	239	–	–	1.143.413.250	1.826.459.900	2.732.624.273
4.	Banjarnegara	278	–	–	12.987.500	966.976.554	658.576.300
5.	Kebumen	460	–	–	3.767.664.010	1.632.487.350	1.098.019.900
6.	Purwerejo	494	–	–	705.876.790	2.532.526.000	1.721.252.920
7.	Wonosobo	265	–	–	574.579.000	349.900.000	1.051.623.250
8.	Magelang	372	–	–	2.443.912.250	3.584.842.713	1.678.989.494
9.	Boyolali	267	–	–	1.112.869.266	987.989.581	3.151.055.318
10.	Klaten	401	–	–	4.616.859.350	3.639.503.979	2.206.221.146
11.	Sukoharjo	167	–	–	50.000.000	213.391.500	539.336.900
12.	Wonogiri	294	–	–	931.686.000	1.398.776.013	2.308.417.604
13.	Karanganyar	177	–	–	1.439.262.400	868.485.500	224.991.700
14.	Sragen	208	–	–	2.072.753.116	1.224.773.500	431.068.200
15.	Grobogan	280	–	–	457.880.000	1.357.923.400	3.072.010.500
16.	Blora	295	–	–	320.293.000	2.081.623.400	34.500.000
17.	Rembang	294	–	–	1.165.836.050	864.215.000	1.136.685.900
18.	Pati	406	–	–	1.872.251.700	9.672.320.840	14.705.389.290
19.	Kudus	132	–	–	1.003.805.861	194.242.000	29.736.250
20.	Jepara	195	–	–	813.589.000	1.040.169.933	327.628.697
21.	Demak	249	–	–	872.679.800	250.392.300	141.654.000
22.	Semarang	235	–	–	503.502.000	1.073.118.300	327.929.000
23.	Temanggung	289	–	–	2.687.705.670	4.365.596.847	2.495.908.360
24.	Kendal	286	–	–	1.555.326.831	692.470.025	321.565.500
25.	Batang	248	–	–	605.593.235	538.515.876	190.030.200
26.	Pekalongan	285	–	–	65.190.000	1.555.949.800	977.661.736
27.	Pemalang	222	–	–	1.537.319.591	5.939.000.000	1.239.524.600
28.	Tegal	287	–	–	1.982.206.251	1.017.141.716	308.597.932
29.	Brebes	297	–	–	1.416.881.900	1.295.439.300	632.248.500
TOTAL		7.809		–	**39.576.290.734**	**55.005.611.128**	48.662.029.412

Source: Regional Guidance Consultant IV of Central Java 2021

The use of village funds is aimed at improving the welfare of the community. The term empowerment in general as an effort to fulfill the needs of individuals, groups and the wider community so that they have the ability to make choices and control their environment in order to fulfill their desires, including their accessibility, to work-related resources, social activities and others. In line with that, empowerment can be interpreted as an effort to improve the ability of the community (Poverty, Marginalized) to express their opinions and necessity, choice, participate, negotiate, influence and manage the institutions of their society responsibly for the betterment of their lives.

The improvement is implemented through the policy of using village funds, several things including as follows:

1. Economic improvement, especially food;
2. Improvement of social welfare (education and health);
3. Independence from all forms of oppression;
4. Guaranteed security;
5. Guaranteed human rights free from fear and worry.

On the other hand, empowerment is a way for people, communities, and organizations, directed to control or rule over their lives (Mamu, Rakhmat, Yunus & Allorante [9]). Community empowerment is an effort to improve the dignity and layers of society that in the present condition are unable to escape in the device of poverty and backwardness. The use of village funds for the development of rural communities in Central Java Province is described and analyzed through three factors, namely creating an atmosphere *(Enabling)*, increasing capacity *(Empowerment)*, and protecting the community interests *(Protecting)*.

The success of village fund management is largely determined by how the village strengthens the village community and democratic institutions in the village first. In this case, the village community should no longer rely solely on the role of certain institutions, such as Village Management Agency abbreviated as BPD, but on the development of overall community participation and collective supervision of the village community to ensure the accountable and legitimate management of the village (widely accepted by all villagers). Some of them observe the need to change the approach so that it really leads to democratization and education of the village.

This fact goes hand in hand with the allocation of billions rupiah funds that enter the village so far is still very small which is directed at its use for community empowerment, strengthening village capacity, institutions and village communities, but instead more are allocated for infrastructure development activities. The lack of use of funds for community empowerment and on the other hand there is a dominance realization of the use of funds in infrastructure is actually not in accordance with the government's own policy that outlines the use of village funds prioritized in the field of development and community empowerment.

The development implementation in the village requires (needs to be accompanied) with the construction of village communities and the empowerment of village communities. Thus, here the position of central democracy and the process becomes appreciated because democracy becomes the basis, values, system, and governance so that it is expected to encourage the formation of participatory democracy and communal work. In the agenda of democracy and village autonomy the problem is how we can regrow and connect the confidence and courage of the villagers to express aspirations for their interests that are carried out simultaneously with efforts to encourage people to independently start designing, deciding, and implementing as well as fulfilling everything that is considered as their needs and interests. The goal can only be achieved through democratic principles that emphasize the importance aspects of "collectivity" in the decision-making process, in addition to the element of "settlement" as the basis for the decision of a policy choice.

Furthermore, no less important is the involvement of the community in village development in Central Java Province through communal work activities. Development execute through community participation is one of the efforts to empower the potential community in planning development related to the potential of local resources based on deliberation studies. It is namely increasing aspirations in the form of real wants and needs around community, increasing motivation and participation of community groups in the development process, and increasing the sense of belonging in community groups to the program activities that have been prepared.

Substantively, community participation covers three things. *First,* Voice: Citizens have the right and space to express their voice in the village program process. The government, instead, accommodates every voice that develops in society, which is then used as a basis for planning. *Second,* access, that is, every citizen has the opportunity to access or influence the planning of village government programs. *Third,* control, that is, every citizen or elements of the community has the opportunity and right to exercise supervision (control) on the implementation of village government programs.

Conclusion

Based on the research results above, it shows that the Disbursement of Village Funds 2015–2019 with significant results, both in terms of allocation mechanisms and their impact. In 2018, the government began to fix the allocation of Village Funds with improvements to the proportion of funds divided equally. It is known as basic allocations, and funds divided based on a formula, as known as Formula Allocation, in the following ways. They are classified into 1) giving affirmations to disadvantaged and very lagging villages that still have a high number of poverty people; 2) giving a greater focus on poverty alleviation and inequality, namely by adjusting the variable weight of the number of poverty community and the area of its region.

The target of the use of village funds becomes important in protecting the interests of the community *(Protecting)*. Village Funds are expected to be able to improve the welfare of the community through various fields such as development, community empowerment to community activities. Villages in particular in Central Java Province are expected to be able to innovate village programs. Especially in the field of community empowerment, do not let the use of village funds only as a development project. Empowerment program becomes a concern of the village government so that it can continue to stimulate community skilled and being independent. In addition, the next term has an impact on the economy of the village community.

The largest proportion in Regional Avenue Budget comes from the Village Fund. The proportion increased sharply from 44.23 percent (2015) to 67.20 percent (2019) of State Revenue Budget. The number will potentially continue to increase considering that the Village Fund budget has not reached 10 percent of the state budget. This condition illustrates the central government is late in responding to the village. While the village geopolitically having a strategic power in Indonesia. Local-based development and empowerment if it can be optimized through the Village Fund, over time will strengthen Political Ideology of Socio-Cultural Economy of Defense and Security conditions macro in Indonesia, although starting from the micro level of the village.

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Section 5. Environmental economics

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FACTORS THAT AFFECTING COLLABORATIVE GOVERNANCE IN PEAT RESTORATION IN OGAN KOMERING ILIR REGENCY, SOUTH SUMATRA PROVINCE

Abstract. This study aims to analyze the factors that influence *Collaborative Governance* of Peat Restoration in Ogan Komering Ilir Regency, South Sumatra Province. This study applies qualitative method. Data collection techniques were conducted through interview, observation and documentation. The data analysis used includes the stage of data condensation, data sorting and data display as well as verification and conclusion. The results of the study are applying three models, namely (Ansell & Gash [1]); (Emerson Nabatchi & Balogh [8]); (Morse Buss & Kinghorn [14]). These models show that the resource factors in which human resources were sufficient, natural resources, budget resources program activities, facilities and infrastructure, institutional factors where there has been involvement of *stakeholders* in peat restoration. It consist of The Government, NGO, Company or Private, academics and media, there is already a forum (working group) relates on peat management, and stakeholders already understand the basic rules of peat restoration. Then the findings on cultural factors include the revitalization of productive economic assistance to society living around peat lands, namely duck livestock activities and cattle fattening activities in Ogan Komering Ilir Regency.

Keywords: Collaborative Governance; Peat Restoration; Ogam Komering Ilir; South Sumatra Province; and Human Resources.

I. Introduction

South Sumatra is one of the provinces in Indonesia that has a large peat ecosystem such as illustrate in the table below:

Table 1.– Peat land Landscape in Districts / Cities in South Sumatra

No.	Districts or Cities	Vast (Ha)	Percentages
1.	Ogan Komering Ilir	1.030.601	49.28%
2.	Banyu Asin	563.083	26.92%
3.	Musi Banyu Asin	358.938	17.16%
4.	Musi Rawas Utara	57.515	2.75%
5.	Muara Enim	35.894	1.72%
6.	Penukal Abab Lematang Ilir	30.305	1.45%
7.	Musi Rawas	15.104	0.72%
	Total (Ha)	2.091.440	100.00%

Source: (*Arumingtyas* [3])

Table 1 above shows that there are 7 (seven) regencies/cities that are half of the administrative area of Ogan Komering Ilir Regency (OKI) with peat land area of 1.03 million hectares or 49.3% of the total peat ecosystem area in South Sumatra. Other districts that have a wide peat ecosystem are Banyuasin Regency (0.56 million hectares or 26.9% of the total peat ecosystem of South Sumatra) and Musi Banyuasin Regency (0.36 million hectares or 17.2%).

Peat ecosystems in South Sumatra province are in a condition that requires comprehensive recovery efforts, where in 2014 cases of forest fires and land were recorded covering an area of 274.051 hectares. The area that suffered the most fires is another use area (APL) which reaches 126.034 ha and the production forest still reaches 109.622 hectares, the rest occurs in the natural reserves / areas of 5 nature conservation (KSA / KPA), protected forests, limited production forests, and convertible production forests. The largest location that experienced a fire occurred in Ogan Komering Ilir Regency, which is 196.063 hectares. In 2015, the area of forest and land fires increased to 736.500 hectares and the largest fires occurred in peat areas (Work Visit Team monitoring and review of the Legislative Body of the House Representatives, 2016). While the concentration of forest and land fires sites is the largest in Ogan Komering Ilir Regency illustrates in the table below:

Table 2.– Area of Forest and Land Fires in 2015

District/ Cities	Space Patterns	Vast (ha)
1	*2*	*3*
Banyuasin	Protected Forest	2.970
	Conversion Production Forest	9.069
	Fixed Production Forest	7.249
	Forest Nature Reserve	74.438
	Tanjung Api-Api Area	255
	Waters	39
	Plantation	37.324
	Settlements	328
	Agriculture	9.428
Total		141.100
Empat Lawang	Protected Forest	363
	Forest Nature Reserve	538
	Plantation	13
Total		914

1	*2*	*3*
Lahat	Plantation	2.789
Total		2.789
Muara Enim	Conversion Production Forest	10.863
	Fixed Production Forest	6.015
	Plantation	13.247
	Agriculture	167
Total		30.292
Musi Banyuasin	Protected Forest	226
	Conversion Production Forest	8.191
	Limited Production Forest	395
	Fixed Production Forest	79.035
	Forest Nature Reserve	4.093
	Waters	71
	Plantation	13.253
	Settlements	61
	Agriculture	2.961
Total		108.286
Musi Rawas	Conversion Production Forest	149
	Fixed Production Forest	2.102
	Waters	79
	Plantation	35.103
	Settlements	3
	Agriculture	230
Total		37.666
Musi Rawas Utara	Conversion Production Forest	160
	Fixed Production Forest	4.335
	Plantation	2.683
	Settlements	181
	Agriculture	7.141
Total		14.501
Ogan Ilir	Conversion Production Forest	205
	Waters	0
	Plantation	8.133
	Settlements	1.244
	Agriculture	2.714
Total		12.297
Ogan Komering Ilir	Protected Forest	19.392
	Conversion Production Forest	18.267
	Limited Production Forest	2.839
	Fixed Production Forest	194.438
	Forest Nature Reserve	11.702
	Waters	717
	Fishing	3.740

1	*2*	3
Ogan Komering Ilir	Plantation	114.768
	Settlements	1.005
	Agriculture	10.463
Total		377.331
Ogan Komering Ulu	Fixed Production Forest	358
	Waters	2
	Plantation	729
Total		1.088
Oku Timur	Plantation	3.811
	Agriculture	180
Total		3.991
Palembang	Plantation	3
	Settlement	377
Total		380
Pali	Fixed Production Forest	1.021
	Plantation	4.072
	Settlement	1
	Agriculture	810
Total		5.904

Source: https://data.dishut.sumselprov.go.id/documents/?limit=5&offset=0

Table 2 above shows that the area of forest and land fires in Ogan Komering Ilir (OKI) district is 377,331 hectares. Forests and land burned in 2015 are 33% in peat land (Peat Restoration Agency, 2016). Burning peat releases tremendous flue and carbon into the air and is particularly harmful to health. Therefore, efforts to restore degraded peat ecosystems should be created. This is stated in (Presiden Republik Indonesia, 2009) on Environmental Protection and Management Article 54 paragraph 2 and (Pemerintah Republik Indonesia, 2014) as well as (Pemerintah Republik Indonesia, 2016). These regulations relate on on Protection and Management of Peat Ecosystems Article 30 paragraph 3, stating that the restoration of environmental functions is carried out by natural succession, rehabilitation, restoration and other means in accordance with the development of science and technology.

Indonesia's commitment to support the reduction of world carbon emissions is demonstrated by the theory from (Susanto & Susila Wibawa [20]) on Peat Restoration Agency (BRG). A non-structural institution has the task to carry out the restoration and design of peat governance in the future. This institution does not work alone in the process of restoration activities; surely, many parties involved central government, local government, community groups and other professional parties. This shows that the importance involvement of many parties or human resources that must be well coordinated so that sectorial differences and egos in government institutions do not become obstacles in the course of peat restoration activities. In addition to resource factors that affect *collaborative governance*, other factors based on models from (Ansell & Gash [1]); (Emerson et al. [8]); (Morse et al. [14]) also influence *collaborative governance*, namely institutional, leadership, and cultural factors.

Based on the description above, researchers are interested in conducting in-depth research on factors that affect *collaborative governance* in peat restoration in Ogan Komering Ilir Regency, South Sumatra Province.

II. Literature review

A. Collaborative Governance

In theory and practice of collaborative governance, (Ansell & Gash [1]) explained that: *"Collaborative Governance* is a control model in which one or more public institutions directly involve non-state *stakeholders* in a collective decision-making process that is formal, *consensus*-oriented, deliberative and aims to create or implement public policies, manage public programs or public assets".

This definition involves six criterions such as follows.: 1) forums initiated by public institutions; 2) participants in this forum include non-state actors; 3) participants are involved in decision making and not just "consult"; 4) the forum is officially organized; 5) the forum aims to make decisions by consensus; and 6) the focus of cooperation is public policy or public management (Ansell & Gash [2]). The emphasis is that the forum is officially organized and conducts regular meetings, consisting of public, private, non-state institutions, including the public who are directly involved in decision making (not just consulting).

According to (Emerson et al. [8]), *collaborative governance* is a structure, process and management of policies involving not only the government, but also the public and private parties to achieve public goals. The definition illustrates that *collaborative governance* is a series of arrangements in which public institutions directly involve non-government *stakeholders* such as the public and private parties in achieving public objectives.

B. Model *Collaborative Governance*

The three Collaborative Governance models put forward by experts are:

1. Model *Collaborative Governance* by (Ansell & Gash [1]).

This model has 4 (four) variables that serve as the center of attention, namely: *Starting Conditions*, *Institutional Design*, *Leadership* (Facilitative Leadership) and *Collaborative Process*.

The initial condition of an organization is very determining the basis level of trust, conflict and social capital can be both an opportunity and a challenge in collaboration. Institutional design can serve as a basic rule in carrying out collaboration, and leadership as a mediator as well as a facilitator in collaboration (Ansell & Gash [2]).

2. Model *Collaborative Governance* by (Emerson et al. [8]).

This model has several variables, namely *Resource Condition*, *Policy and Legal Framework*, Level of Conflict/Trust, Socio-economic, culture and Diversity, Prior Failure to Address Issues, Political Dynamic/ Power Relations, Network Connectedness, Leadership, Consequential Incentives, Interdependence, Uncertainty, Principle Engagement, Shared Motivation, and Capacity for Joint Action.

3. Model *Collaborative Governance* by (De Seve [6]).

This model has several variables, namely Networked Structure, Commitment to a common purpose, Trust among the participants, Governance, Access to authority, Distributive Accountability/ Responsibility, Information sharing, and Access resources. Based on the three models stated above, the factors that influence *Collaborative Governance* in this study focus on four variables, namely Resources, institutional, leadership, and culture.

– **Peat Restoration**

Peat Restoration is an effort to protect and manage peat ecosystems, which include aspects of protection, recovery, and utilization of natural resource wealth in the form of peat ecosystems, which are carried out sustainably and wisely to ensure the continuity of their functions, in order to provide benefits in supporting human life (Suryani [19]).

III. Research method

The type of research used in this study uses a qualitative approach. According to (Moleong [13]; Patten & Patten [15]), qualitative method was a research that produces descriptive data in the form of written or spoken words from people and observable behaviors. The location in this study is the TRG Office, especially peat restoration area in Ogan Komering Ilir Regency,

South Sumatra Province. The research was conducted from May 2019 to August 2019.

Data collection techniques conducted to analyze *Collaborative Governance* in Peat Restoration in Ogan Komering Ilir Regency, South Sumatra Province by car; Interviews conducted to informants to obtain data or information about *Collaborative Governance* in Peat Restoration in Ogan Komering Ilir Regency, South Sumatra Province. Observations were made by observing various phenomena, circumstances, actions and events that occurred in the field related to *Collaborative Governance* in Peat Restoration in Ogan Komering Ilir Regency, South Sumatra Province. Documentation obtained through documents from various records, archives, books and regulations related to *Collaborative Governance* in Peat Restoration in Ogan Komering Ilir Regency, South Sumatra Province (McLellan, MaCqueen & Neidig [10]).

In addition, the determination of informants or people whose are expected to master and understand the data, information or facts of the subject (Bungin [5]). Determination of informants is determined through purposive method that is the determination of research informants tailored to the needs. This is because not all informants have criterions that match the phenomenon studied. Informants who become the primary source of data are actors authorized in *Collaborative Governance* in Peat Restoration, namely: 1) Peat Restoration Agency; 2) Regional Peat Restoration Team (TRGD) Of South Sumatra Province; 3) Forest Service of South Sumatra Province; 4) Environment and Land Office of South Sumatra Province; 5) Corporations/Private Parties; 6) Non-Governmental Organizations (NGOs); 7) Communities.

The data analysis techniques used in this study are (B. Miles, Huberman, & Saldana, [4]) that were covering three flow of activities, namely data condensation, data presentation, and conclusion drawing. According to (Moleong [12]), to determine the validity of data required examination techniques based on the trust degree of division, dependence and certainty, so that in this study using triangulation techniques that are techniques of checking the validity of data that utilizes something other than that data for the purposes of checking or as a comparison to this data.

IV. Result and discussion

Factors that affect *Collaborative Governance* in Peat Restoration in Ogan Komering Ilir Regency, South Sumatra Province are as follows:

1. Resources

One of the goals of collaboration is *collaboration for resources,* meaning that collaboration is implemented to enable resource sharing between stakeholders in solving public problems (Meier [11]). Resources are a substantial aspect of collaborative governance. This is very clearly shown in the *Collaborative* conveyed from the Model of (Ansell & Gash [2]) which illustrates that the starting conditions in collaboration are influenced by several phenomena, namely imbalance of strength, resources and knowledge.

Furthermore, (Emerson et al. [8]) illustrated that *collaborative governance* into three dimensions, especially in the resource factor in the dimension of system context, resource conditions are factors that lead to the need to form collaboration activities. The dimension of *drivers,* the potential of different resources, owned by each stakeholder leads to a condition of *interdependence* that gives birth to the realization that achieving something cannot be achieved by effort and capacity of one party alone but have to collaborate with the other party. The dimension of capacity collaboration dynamics for shared action leads to the use of shared resources to achieve collaboration goals.

According to (De Seve [6]) one of the success factors of *collaborative governance* was *Access to Resources*. Availability of resources, finance, technical, human and other resources needed to achieve network goals. A program or activity can run if supported by resources, especially financial and human availability. The findings of the research on resource factors consist of two discussions, namely the potential of resources in the stakeholder environment and the need to share resources.

A) Potential resources in the stakeholder environment.

The results of research on potential resources in the stakeholder environment related to peat restoration in Ogan Komering Ilir Regency shows that the government has high resources related to human resources, natural resources, budgets, program activities and facilities and infrastructure. This is supported by the reality and data in the field.

B) Resource sharing needs

The results of research on resource sharing need show that there are limited resources concerning various parties in its management. This is supported by the reality and data in the field.

2. Institutional

Institutional in the concept of collaboration is a container or space where collaboration activities between stakeholders able to take place. (Ansell & Gash [2]) stated that institutional design is important delegitimize the collaboration process which is characterized by a wide openness for *stakeholders* to participate inclusively. Along with the forum as a forum for collaboration, the collaboration that occurs has a clear basis.

The findings on institutional factors consist of three discussions, namely participation, limited forums, and the basic rules of collaboration support.

A) Participation.

Peat restoration and rehabilitation efforts are inseparable from the participation approach that is by actively involving the community since the planning or drafting and implementation of restoration activities in that field. The results show that the participation involved in peat restoration is all parties, whether government, NGO, company or private, academicians and media.

B) Limited Forums.

The results shows that there is already a forum (working group) peat management but the role of vacuum occurs. This is supported by data in the field.

C) Basic Rules Of Collaboration Support.

The results shows that stakeholders already understand about the basic rules of peat restoration, namely first, legislation and related policies governing peat at the central government level including (Pemerintah Republik Indonesia, 2016) on the protection and management of peat ecosystems. Second, local government policies on peat governance of South Sumatra include (Draft P. P. [7]) on the protection and management of peat ecosystems. This is supported by interview data and documentation.

3. Leadership

Leadership roles are a substantial aspect theory from (Ansell & Gash,[2]) on *collaborative governance* model. Creativity leadership is one of the important factors that support the implementation of the collaboration process. Initial conditions, institutional design, and initiative leadership are the three main drivers of the creation of collaboration dynamics. Thus, the involvement of stakeholders in collaborative governance is not something that happens by itself. However, it comes from a touch of collaborative leadership. This is in line with theory from (Emerson et al. [8]) which positions leadership as one of the driving forces (Driver) that encourages collaboration. Leadership refers to the figure of a leader who is initiative to start and help prepare resources in supporting the implementation of *collaborative governance* with the capacity owned.

The findings of the research on leadership factors consist of two discussions, namely mediator of collaboration and preservation of public assets.

A) Mediator of collaboration.

The research results on collaboration mediator's show that there is encouragement from the government in this case the Peat Restoration Agency includes the involvement of village communities in monitoring and law enforcement related to degraded peat restoration. This is supported by existing data in the field.

B) Preservation of public assets.

The results of research on the preservation of public assets show that the existence of high groundwater monitoring equipment in South Sumatra Province, stolen by irresponsible persons. The price of the

tool is 100 million rupiah per unit. This is supported by reality and data obtained in the field.

4. Culture

Cultural factors in collaboration are factors related to mindset, behavior and habits that influence collaboration activities. This study is related to the culture in the government environment that dominates or not in the administration and views on the benefits of collaboration.

One of the causes of collaboration can fail is that cultural tendencies depend on procedures and do not dare to take breakthroughs and risks. Cultural factors consist of two indicators including the culture of government dominance and the view of the benefits of collaboration in peat restoration.

– **Duck Livestock Activities in 2018**

A) Governance dominance culture.

The research results on the government's dominance culture in peat restoration show that the existence of nonstructural institutions formed by the President. It is namely the Peat Restoration Agency in charge of coordinating and facilitating peat restoration in South Sumatra Province, the existence of revitalization activities that have been implemented in the form of productive economic assistance including duck livestock activities in 2018. Moreover, the cattle fattening assistance activities in 2019 in Kedaton village, Sidakersa District of Kayu Agung Sub-District Ogan Komering Ilir Regency. This illustrates that there is a culture of government dominance supported by interview data, observations and documentation in the field as follows:

Figure 1. Duck Livestock in Ogan Komering Ilir

Source: Report on the Implementation of Provincial Peat Restoration Activities, South Sumatra, 2018

Figure 1 above shows that there has been a revitalization of duck cattle in Kedaton village of Ogan Komering Ilir Regency in 2018. This productive economic assistance is provided by the BRG Agency so that the community around KHG (Peat Hydrological Union) can improve the economic level and do not think to burn peat land in order to open their agricultural land. One of the criteria of villages provided with assistance is the affected villages due to the construction of canal barriers.

– **Cattle Fattening Activities in 2019**

Figure 2. Figure 2 Preparation of Cattle Fattening Activities in Ogan Komering Ilir
Source: Data Researcher, July 29, 2019

Figure 2 shows that in 2019, Kedaton village received assistance back from BRG in the form of cattle fattening activities where in the first term the funds provided were allocated for the manufacture of cages first. After the cage is neat and finished, term in next when the funds come down from the province, followed by the purchase of cows.

The research results show that there is a tradition of the community in Ogan Komering Ilir Regency in clearing land by burning to grow rice or known as sonar system. The sonar system is difficult to eliminate, economic aspects influence this because it can save time and low costs for land clearing. Furthermore, the communities of Ogan Komering Ilir Regency have a tradition of managing Purun plants that live in peat lands into handicrafts such as mats, sandals and so on. Changes in the way peat land management is managed with the collaboration of Peat Restoration, people are encouraged to leave the old culture (sonar farming) with productive economic assistance solutions, namely duck livestock activities and cattle fattening activities.

V. Conclusion

Based on the research results, it can be concluded that the supporting factors of *Collaborative Governance* in peat restoration in Ogan Ilir Regency, South Sumatra Province, namely resource factors that are sufficient for human resources, natural resources, budget resources of program activities and facilities and infrastructure. Moreover, institutional factors where *stakeholders* have been involved in peat restoration, namely The Government, NGO, Company or private, academics and media, there is already a forum (working group) peat management, and *stake-*

holders already understand the basic rules of peat restoration.

Then these findings on cultural factors include the existence of a culture of government dominance in peat restoration activities with the establishment of BRG and the revitalization of productive economic assistance. It classifies into duck livestock activities and cattle fattening activities so that the community can abandon the tradition of sonar farming so that forest and land fires in Ogan Komering IlIr Regency are reduced. This research contributes input for the government to be able to strengthen BRG and its working period can be extended because it provides many benefits for communities impacted by forest and land fires.

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Section 6. Economics of enterprises

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DIGITAL MARKETING

Abstract. Digital marketing at the modern times is something without which it is almost impossible the function and the development of market economy. The use of digital marketing has been spread all over and is being used worldwide. With this paper the author tries to explain the use of digital marketing along with the benefits it has for the prodeucers and consumers in the economy, as well as the communication established. For the needs of this paper the author uses the method of market analysis, the method of legal analysis, method of logic analysis whereas it is expected that the paper may be serving the needs of further debate in Kosovo in regard to economy and the academia.

Keywords: digital marketing, advertisement, market, client, product.

Introduction

Advantage of this type of marketing is its capacity for more communication. Bussinesses and the concept of marketing in business are considerably supported by the use of computers. Computers play an important role in control of inventures, processing and manging orders, design and production of goods, analysis of prodeuct and the market. The main characteristic of business is the ability to create links between people. Enterprisses communicate with consumers through various types of media. Over many years the dramatic change of development happened in form of traditional marketing and media and communication. This is a revolution and that is Internet, global massive complicated network which has the potential that in a drastic way change the way of making business with the consumers. Marketing is a process by which goods are sold or bought where the goal of marketing is to keep consumers pleased. Internet is service of information based on hypertext that enables approach in multimedia, complex documentation and the data base. The networs is from the most effective machines of information because of its visual appearance and the advancement of characteristics. It is also for those who do marketing Internet could be used: to create a basis for clients, for analysis of product and the market, for quick approach to information, for quick communication, for recruitment of new workers, for opening new paths of businees. Modern marketing has evolved in a complex and various field. This field involves a broad spectrum of special functions as are: advertisement, business of ordering via posts, public relations, slae, market requests, determination of price of goods, etc. [1]

Computer technology

Computer technology is the most important and most impressive means which ensures succees of enterprise. Computers play an important role in every aspect of enterprise existence–from the design and production of a product, creation of data base

of consumers, control of inventures, market analysis, advertisement, sale and all operations of enetrprise. Durign the last years increased distribution og compiuter technologies and communication with businesses has created new ways for enetrprises to get connected to their clients. These medieted environments by computers with the acronym ANK, as Internet raise the question of request. Potential research issues in corelation with the mediated environments with computers-ANK observe five parts and that as:

– Processes of placement;
– Advertisement and communication;
– Brand communities and
– Determination of price.

During last years the world of marekting has dramatically chanegd by the quick spread of computers and informatic technology through businesses. Two most important changes that increased potential of linkages between buyres and sellers are the number of housekeeprers that possess personal computers and the exponential increase of Internet application –-most improtant: world wide, Web-WWW.

Traditional concept of marketing enables a set of leading principles for companies that like to integrated in a broad field of Internet and the digital technology with their business activities.

Term marketing (electronic marketing) was created by refering the use of a broad field of communication technology including celulars and digital televisions on following goals of marekting.

Broadeing of application of digital technology suggests traders that they should broaden their thoughts about Internet including all platforms that allow the application of electroni business. Electronic trade involves application of a broad field of digital technology to follow business interactions including:

– Internet;
– EDI;
– Email;
– Wire transfers-electronic pay;
– Electronic televisions [2].

Forms of electronic technology according Davis Jobber are:

– Business-to-business (B2B) or business towards business by the use of KED changes. Companies lile the case Cisco have transfered aproximately all their sale in Intermet, thus this is the biggest form of Internet for the time being.

– The other form of electronic trade is Business-to-consumer (B2C) or business towards consumers which is based to the retailer as Tesco by enhancing buying in network and by adding trade channels through the Internet.

Amazon.com has created global sale of books bu the use of new technologies of sale on network. When at the beggining face the Internet it is not unual to be defeated from the complexicity of technology and the variety of alternative roads through which firm could join the marketing Internet and electronic trade.

Van Slyke and Belanger propose some possibilities to have influence in the business technology of Internet and that as:

– E-licence;
– new markets
– competitiom
– financial investments and
– trade changes.

There also exist some factors who influence the adoption of Internet marketing:

– inner factors – enterprisses could have total influence, e.i. does the organization or company have a working strategy and is the product adequate in order to be the part of exchange in the network.

– Environmental factors – in these factors the entreprisee has no influence, e.i.in the question how competition uses the Internet.

– Comparison advantages of the Internet – circumstances which offers the Internet in marketing compared to old methods of buying, e.i.technological abilities, speed and the approach in new markets in the entire world [3].

Strategies of communication in the Internet

Capacities to communicate and to establish a report with every individual is one of the main forces of the Internet.

Publicity in the Internet undoubtedly should take part in a general communication plan of an enterprise. VV model could give valuable advice on creating marketing in the Internet, it also gives answer in th equestions: who, what, when, where, why.

Many of changes among the goods and services have influence in the effective and suitable use of short term promotion in the marketing of services. Four of most important changes are:
– the lack of inventory;
– Reduction of mediators;
– Importance of consumer contacts with the personnel;
– Participation of consumer in production.

In order to increase interest and the pleasure on price olicies used properly or in order to motivate clients to undertake a determined activity on the lack of reduction of direct price, marketing specialist of services applies seven promoting techniques. These alternatives are:
– Coupons;
– Rebates;
– Information on appliance of sale in the future;
– Prices in form of gifts;
– Promotion price/quantity;
– Proof [4].

Electronic Marketing as a means of communication with the consumer

Marketing through the Internet, said on the other way E-marketing or online marketing is the marekting of products or services through the internet. Internet brings many profits and unique for marketing including low costs and the distribution of information and by this it plays the role of media on global audience. This type of marketing connects together creative aspects and the technic ones of internet, including design, development, advertisement and sale. Methods of electronic marekting include:
– Marketing through requiring motors;
– Marketing of performance;
– Marketing through email
– Branched marketing;
– Advertisement; and
– Blog-marketing.

Electronic marketing is a process of increase and promotion of an organization by using online media. This doesn't mean that this form includes online creation of a web site or its promotion. Quite often behind this web site it stand a real organization with the determied goals.

Strategies of this form of marketing include all aspects of online advertisement of products, email marketing, direct sale, etc. The Internet offers advertisers two ways of advertisement. In addition of simple advertisement through banners, in Internet it is offered also the advertisement quite popular according to the key words that enabled advertiser to show the advertisement only when seeker requires a determined notion.

Advertisement according to the key words is paid according to the click (PPC model) that means that advertiser pays the place of advertisement only then when user clicks on this part. When user requires a notion (one or some words) seeker from that moment when foudn internet connection which correspond required notions.Marketing in the Internet offers quick communication for buyers who immediately could order the required product. Potential buyer at every moment could come back to the advertisement and to verify one more time offered services or regarding the company information [5].

Advertisement in the Internet offers a quick communication with the buyer who immediately may order the required product. Potential buyer in every moment could come back to the advertisement and to verify one more time offered services or regarding the information about our company. Every change on information about our products will be visited firstly from the visitor in the Internet.

Advantages of the Internet:

– Reducement of expenses during advancement anf organization of marketing in company;

– Company takes a strategic position inb market by which the old clients are saved and gain more new clients and by this the company is competitive at the high level;

– With the constant presence in the Internet with the different activities of marketing and web presentation, an image of modern company is build up which is also reliable and strong.

Advertisements in the Internet cojld lead to a considerable increase of incomes, increase of numbers of consumers and the spread of the name of the company. In addition to this they are a direct channel with the lower cost which small businesses could use in order to enter to consumers so the products are sold. Advertisements in the Internet are the efficient ways to transmit the message to the potential clients, allowing enytrance to a bigger clientele by reducing sensitively marekting expenses. Different from most of programs of marketing which are difficult to be followed, advertisements in the Internet give a direct profit idea from the investement done in marketing as well as help in establishing a big basis for clients and incomes.

Nowaday clients visit the Internet not only for news from technology or to buy but also as a resource to know various products and services. New studies of companies "Kelsey Group" and "ConStat" show that 80% of American adults use the Internet as the information resource where they can buyr products and services in the zone where they live.

Advertisements in the Internet not only help the increase traffic in the determined web site but they also positively impact sale by traditional ways since they serve as the resource for spreading the name of the company. Many big companies with the traditional marekting campaigns take the way of advertisement in the Internet and up until now have achieved big success. This number of different companies that advertise through Internet is in a continual increase [6].

Conclusions

The Internet advertisement has drastically and positively changed the way of promotion of services and products. These changes made and continually make an impact on the way of how communicate producers and the consumers in the market economy. They not only engter more easily into the business relations but they also in the economic transactions have more benefits: producers get more easily in contact with the potential clients, whereas consumers not only get easily in contact with the products and services but through this they can get to a more favorable prices for the needed products or services. New technologies now have opened doors for new achievements, since the use of the Internet has increased tremendeously and it will continue further. Acces to the Internet nowadays have almost all adults in every country. Even in the poor countries.Thus the advertisment of products is normally expected to incerase and at the same time the increase of client appears directly. Finally, Internet now is a tool without which the development of business is almost impossible.

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Section 7. Economics of recreation and tourism

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INTERNATIONAL TRADE AND INTERNATIONAL TOURISM: WHAT'S THE RELATIONSHIP BETWEEN?

Abstract. Tourism plays an important role in the development of many countries. This year, however, the Covid-19 pandemic and its associated economic shutdown have disrupted nearly every aspect of people's lives, especially tourism which has been hit hard by the pandemic. International trade is also a significant contributor to the economic growth of a nation. The purpose of this project is to find out the relationship between international trade and international tourism and take the advantage of this relationship to improve the local economy. The data from NBS of China was gathered and graphed. R-Studio was used to analyze the data and to obtain the relationship between international trade and international tourism. Trend lines were shown using Excel, the correlation diagram and the linear regression analysis were performed. Three trade variables were shown to be positively correlated with international tourism. The negative association between Registered Capital of Foreign Funded Enterprises and tourism outcomes may be explained by the relationship between the trade variables. These results can be supportive of the Chinese government policies/strategies that aim to enhance the country's foreign trade volume as well as to promote international tourism.

Keywords: International trade, International tourism, correlation, R-studio, linear regression, stepwise.

1. Introduction

Due to the development of transportations and international relationships, international trade and international tourism take place more frequently than before and play an important role in many countries. The United Nations World Tourism Organization (UNWTO) stated that: growth in international tourist arrivals continues to outpace the economy. 2019 was another year of strong growth, international tourist arrivals (overnight visitors) worldwide grew 4% in 2019 to reach 1.5 billion, based on data reported by destinations around the world [1]. In China, the tourism industry has been expanding significantly in recent years.

This year, however, the Covid-19 pandemic and its associated economic shutdown have disrupted nearly every aspect of people's lives and created crises for most countries in the world. Service industries, especially tourism, have been hit hard by the pandemic. The discovery of the association between international trade and international tourism can provide a fresh perspective for government officials as well as global executives on how to sustain a meaningful economic recovery.

International tourism refers to traveling across national borders, including outbound and inbound tourism. People travel to different countries to meet local people and learn about their cultures with one of the benefits being that it can boost businesses such as travel agencies, hotels, resorts, and restaurants. These businesses will further attract foreign funds and generate income which can help facilitate the local economic growth and provide employment opportunities [2]. International trade refers to the commodities and labor service between different countries [3]. International trade is also a significant contributor to the economic growth of a nation. Imports and exports can create huge benefits for countries, to name a few:

- They bring in a variety of products from different areas, such as specialty products that only can be produced locally, due to the climate;
- Promote efficiency in production and prevent monopoly by bringing in lower prices and more choices. This leads to close and mutually beneficial counties' relations;
- Generate more employment opportunities through the establishment of newer industries and companies to meet the demands of trading partners.

This study aims to analyze and evaluate the association between international tourism and international trade in China.

2. Method

2.1. Data Source

The data was collected from the National Bureau of Statistics (NBS) of China. This website is authoritative and official [4]. NBS is an agency directly under the State Council and is in charge of statistics and economic accounting in China. The website includes data on the country's foreign trade and international tourism over the recent ten years of data. Specifically, the 9 indices included in this study, and their corresponding labels are shown in table 1. All data are from 2008 to 2017 and ordered by region/province of China [5].

Table 1. – Variable labels for each measure

	Variable names	Variable labels
Foreign Trade indices	Total Value of Imports and Exports Commodities	Value_Imports_Exports
	Total Value of Imports Commodities	Value_Imports
	Total Value of Exports Commodities	Value_Exports
	Number of Foreign Funded Enterprises (year-end)	F_Funded_Etpr
	Registered Capital of Foreign Funded Enterprises	Cpt_F_F_Etpr
	Total Investment of Foreign Funded Enterprises	Invest_f_f_Etpr
International tourism indices	Number of Foreign Visitors	Foreigners_Visitor
	Number of Oversea Visitor Arrivals	Ovs_Visitor_Arrivals
	Foreign Exchange Earnings from International Tourism	F_Exch_Earnings

2.2. Data Analysis

Descriptive analysis:

Using Microsoft Excel to generate line graphs for visual observation of each index's trend. Compare the trends, differences, and similarities visually. Make a hypothesis based on the observation of the graphs and try to prove it in the following analysis.

Linear correlation:

Input the data into RStudio. Transform the wide data format into a long data format using the "gather" function to gather columns into key-value pairs. For instance, the data was in a wide format with 31 rows (regions) and 11 columns (years 2008–2017) per index. The gather function transforms each index data into a 310 × 3 data frame with regions sequenced by year as rows. Then all the index data frames were

merged into one, and the correlation between the indices within foreign trade, within international tourism, also between foreign trade and international tourism were examined. The correlations are represented using the "corrplot" function with a digital rate so that the correlations can be examined in a numerical way.

Regression analysis:

Using stepwise linear regression analysis, foreign trade indices' linear relationship with the international tourism indices were modeled. Regression analysis is a powerful statistical process with the goal of finding the relations within a dataset, especially the relationships between the independent variables (predictors) and a dependent variable (outcome). It can be used to build models for inference or prediction. Linear regression is a commonly used statistical technique for continuous outcomes. It is widely used in biological, behavioral and social sciences.

Stepwise linear regression is a method of regressing multiple variables while simultaneously removing the weakest correlated variables. Hence, the stepwise variable selection alleviates the concern of collinearity among the predictor variables. Function "stepAIC" in the "MASS" library was used to achieve this.

Multiple linear regression follows the formula: $y = a_0x_0 + a_1x_1 + a_2x_2 + \ldots + a_nx_n$. The coefficients ($a_0$, a_1, $\ldots$ a_n) denote the magnitude of additive relation between the predictor and the response. The null hypothesis would be that there is no relation between the predictor and the response. The p-value of F statistic can be used to determine whether the null hypothesis can be rejected or not [6]. In the output of the linear regression, the p-value for each term tests the null hypothesis that the coefficient is equal to zero (no effect). A low p-value (< 0.05) indicates that the null hypothesis can be rejected.

The F-test linear regression tests whether any of the independent variables in a multiple linear regression model are significant [7]. The Residual Standard Error (RSE) estimate gives a measure of error of prediction. It is the average amount that the real values of the outcome variable differ from the predictions provided by the regression line. The lower the RSE the more accurate the model.

R-squared (R^2) is a goodness-of-fit measure for linear regression models. It evaluates the scattering of the data points around the fitted regression line which is the strength of the relationship between the model and the dependent variable [8]. In other words, it measures the proportion of variability in the outcome that can be explained by the model on a 0–100% scale. The higher the value, the better the model is able to explain the variability in the outcome. However, an increase in the number of predictors mostly results in an increased value of R^2 due to inflation of R-squared. Adjusted R-squared adjusts the value of R^2 to avoid this effect [6].

3. Result

3.1. Line graph showing the trend of each index

Figures 1–7 plot the indices in the dataset with Excel. Each plot is a line graph of each region's index from year 2008 to 2017 that is color coded by region. The regions with the highest values of that particular index are marked in the graph. For the cities that are both well developed in tourism and trade, such as Beijing, Shanghai, and Jiangsu, the international trade and international tourism trends are quite similar. It is reasonable to hypothesize that the international trade indices are associated with international tourism indices.

Figure 1 shows that the tendency of exporting and importing reached the max in 2013 and seems to continue to grow up after 2017. Figure 2 shows that the number of foreign funded enterprises increased from 2008 to 2017, so are the registered capital of foreign funded enterprises and the total investment of foreign funded enterprises as shown in figures 3 and 4. The registered capital of foreign funded enterprises also surged in 2014 mostly. In 2016 to 2017 the total investment of foreign funded enterprises boosted dramatically. Figure 5 (Number of Oversea Visitor Arrivals) shows that Guangdong province was outstanding among all other provinces.

(Figure 6) shows the number of foreign visitors fluctuated a lot. In 2012, the number of foreign visitors decreased dramatically except Guangdong. Figure 7 (the foreign exchange earnings) is somewhat similar with figure 5, Guangdong province was outstanding and increased continuously.

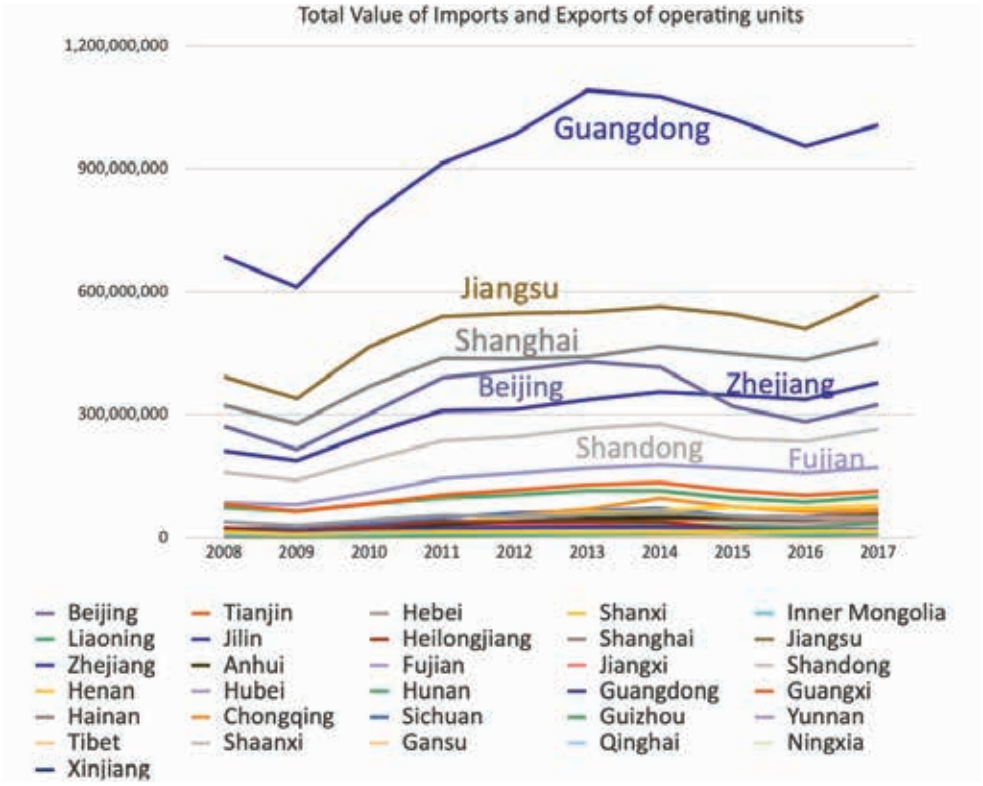

Figure 1. Total value of Imports and Exports from 2008 to 2017 colored by region/province

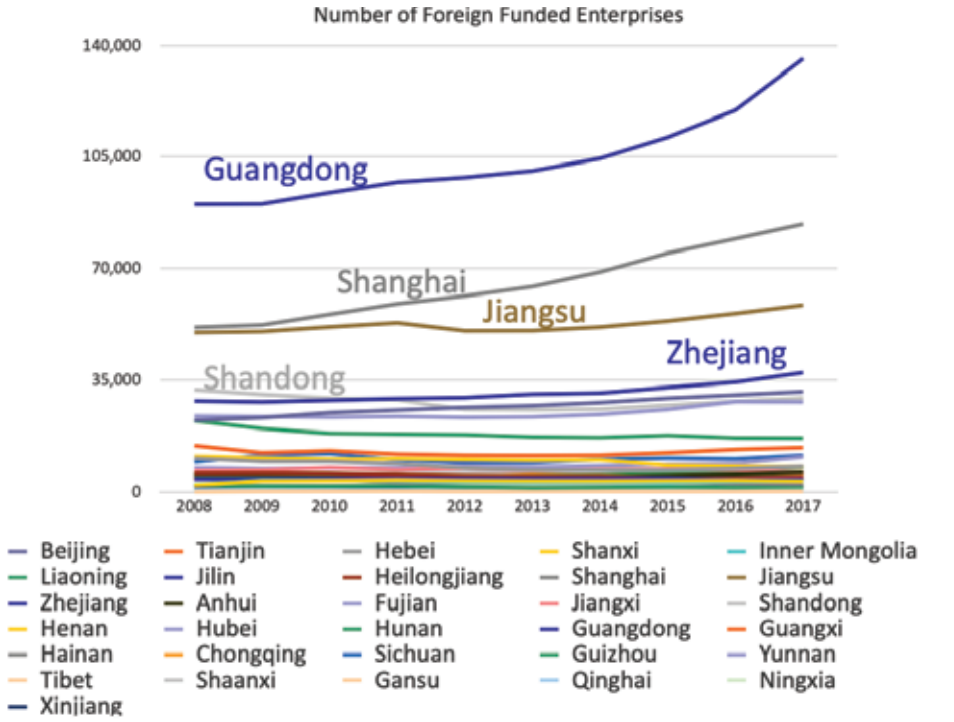

Figure 2. Number of Foreign Funded Enterprises from 2008 to 2017 colored by region/province

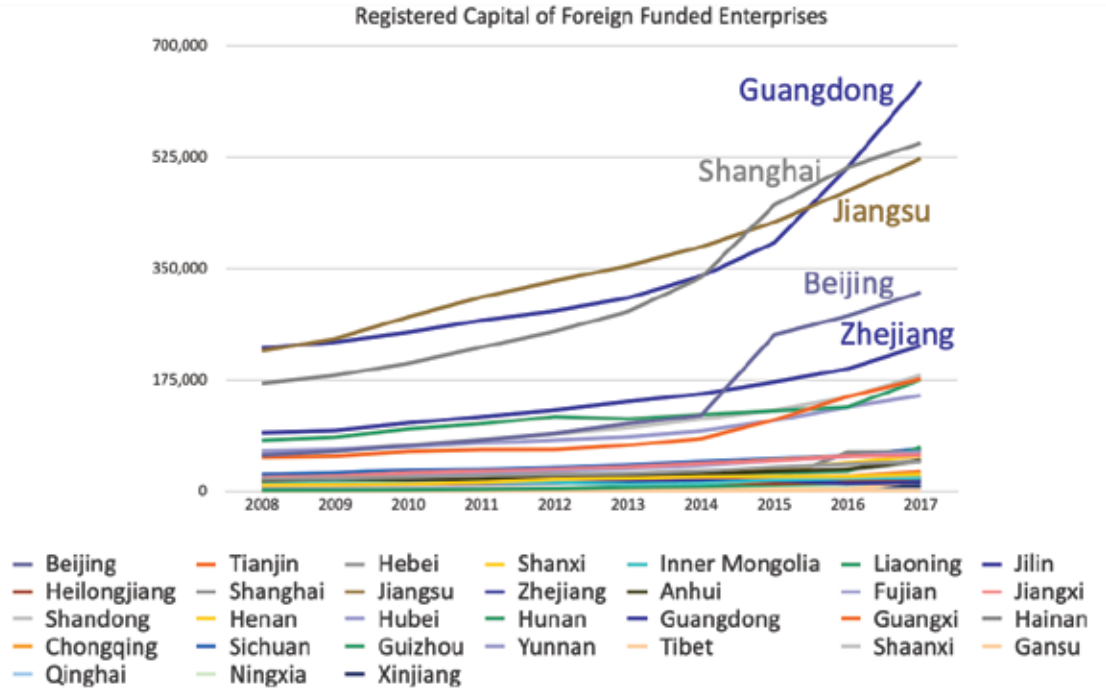

Figure 3. Registered Capital of Foreign Funded Enterprises from 2008 to 2017 colored by region/province

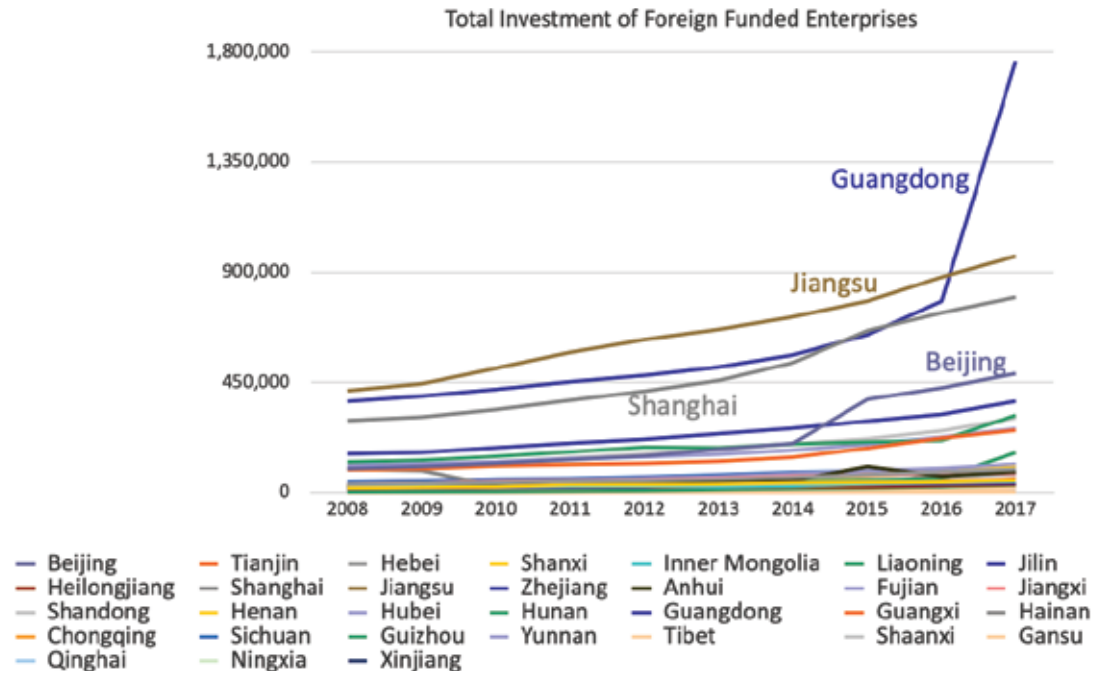

Figure 4. Total Investment of Foreign Funded Enterprises from 2008 to 2017 colored by region/province

Figure 5. Number of Oversea Visitor Arrivals from 2008 to 2017 colored by region/province

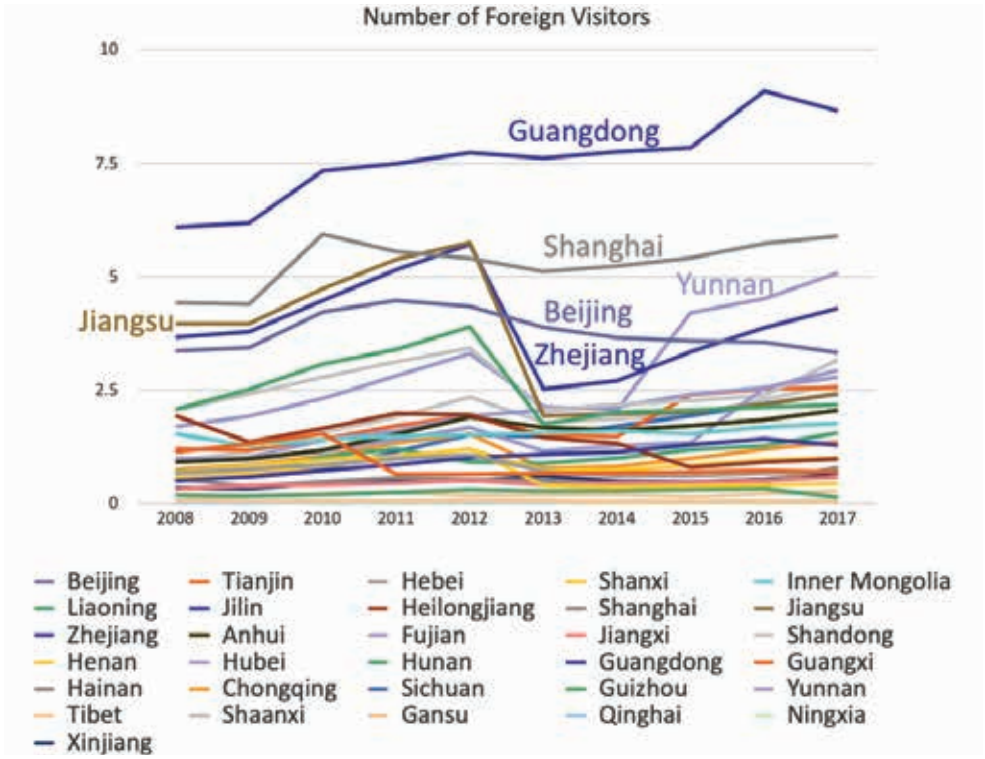

Figure 6. Number of Foreign Visitors from 2008 to 2017 colored by region/province

Figure 7.

3.2. The Correlation Diagram

Function "cor ()" was used to calculate correlations between indices and "corrplot()" was to produce graphical displays of the correlation matrices with the size of the circles being proportional to the correlation coefficients. The numbers inside the circles are the correlation coefficients and the color of the circles shows positive or negative correlation. The correlation between international tourism variables and between international trade variables are shown in figure 8–9 respectively. Figure 10 and table 2 show the correlation matrix of all indices in this study. All measures are highly correlated.

In the international tourism variables diagram, the number of foreign visitors and the number of overseas visitor arrivals are most related to the foreign exchange earnings from international tourism and have a rate of 0.88 and 0.93. In the correlation diagram of international trade variables, the total value of imports and exports commodities is the most correlated with the total value of imported commodities and the total value of exported commodities and have the rate of 0.95 and 0.97. In the correlation diagram of international trade and international tourism variables, the foreign exchange earnings from international tourism and the total value of imports and exports commodities, have a very high correlation rate – 9.3, which confirms the hypothesis made in section 3.1. In addition, the total value of imports and exports commodities have high correlation rates of 0.86, 0.93, and 0.85 with the international tourism variables, and a number of foreign-funded enterprises have high rates of 0.86, 0.92 and 0.87 with the international tourism variables. The number of registered capitals of foreign-funded enterprises and the total investment of foreign-funded enterprises are less correlated with international tourism.

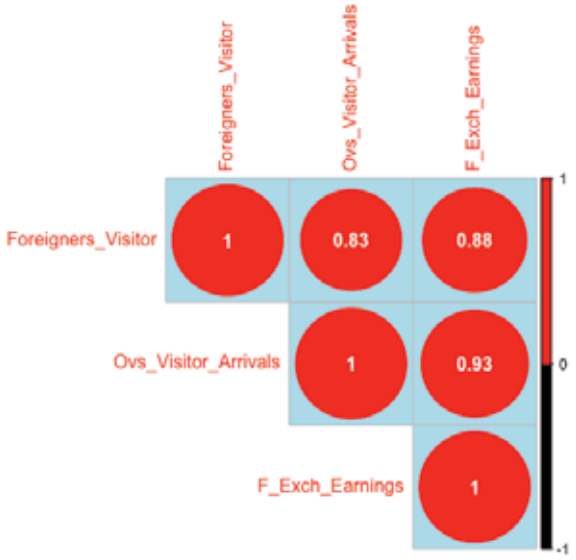

Figure 8. The correlation diagram of international tourism variables

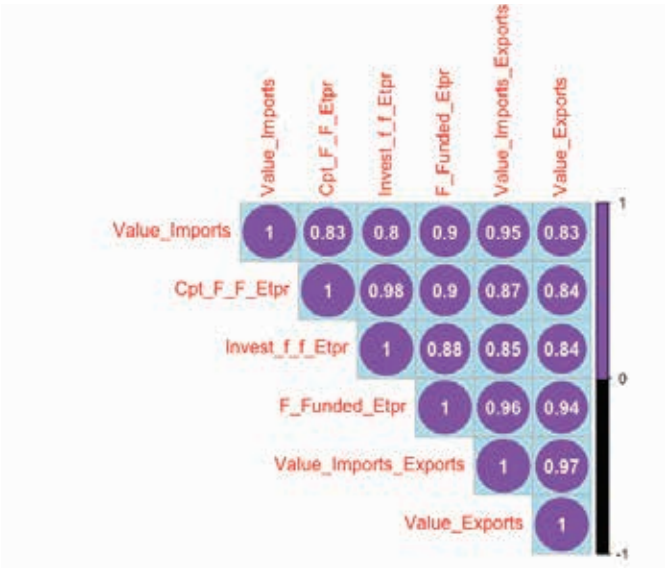

Figure 9. The correlation diagram of international trade variables

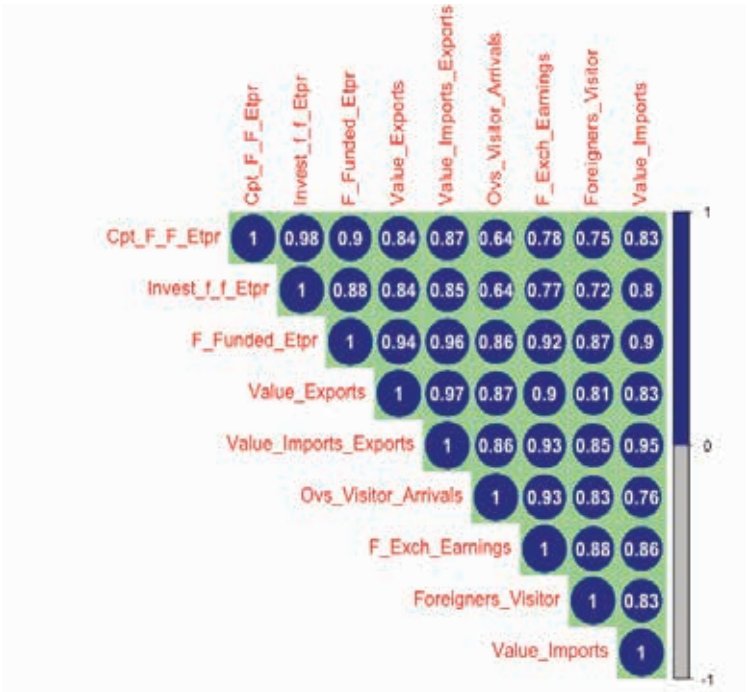

Figure 10. The correlation diagram of international trade and international tourism variables

With stepwise regression analysis, the international trade variables for each tourism index were selected, as shown in (table 3). The outcome statistics (residual standard error, R-squared, F-statistic, p-value) for each model are summarized in table 3 as well. The final models with regression coefficients and their individual p-values are listed in the Appendix. Figures 11–13 show the residuals versus fits plot which is a scatter plot of residuals on the y-axis and fitted values (estimated responses) on the x-axis. The plot is used to detect non-linearity, unequal error variances, and outliers [9].

Table 2. – Correlation between international tourism and foreign trade

	Number of Foreign Visitors Arrivals	Number of Oversea Visitor Arrivals	Foreign Exchange Earnings from International Tourism
Total Value of Imports and Exports Commodities	0.851078	0.85969	0.925436
Total Value of Exports Commodities	0.80545	0.871164	0.904975
Total Value of Imports Commodities	0.82789	0.763141	0.863186
Number of Foreign Funded Enterprises	0.865586	0.856527	0.91641
Registered Capital of Foreign Funded Enterprises	0.74859	0.636119	0.777374
Total investment of Foreign Funded Enterprises	0.721392	0.642273	0.772427

Linear regression analysis

From the residuals versus fits pot (figures 11–13), the residuals appear to «bounce randomly» around the zero line. This suggests that the assumption of the linear relationship is reasonable. Some residuals «stand out» from the basic random pattern of residuals which suggests that there are some outliers.

From the result of linear regression, the registered capital of foreign-funded enterprises turns out to be negatively associated with international tourism. The total value of imported commodities, the total value of exported commodities, and the number of foreign-funded enterprises are strongly and positively associated with international tourism.

Table 3.– Final model for each tourism index from stepwise analysis

International Tourism Index	Number of Foreign visitors	Number of Oversea Visitor Arrivals	Foreign Exchange Earnings from International Tourism
1	*2*	*3*	*4*
Predictor Variables	region	region	region
	year	year	year
	Total Value of Imports	Total Value of Imports	
		Total Value of Exports	Total Value of Exports
	Number of Foreign Funded Enterprises	Number of Foreign Funded Enterprises	Number of Foreign Funded Enterprises
	Registered Capital of Foreign Funded Enterprises	Registered Capital of Foreign Funded Enterprises	Registered Capital of Foreign Funded Enterprises
Residual Standard Error	0.4487 on 267 degrees of freedom	0.7273 on 266 degrees of freedom	569.2 on 267 degrees of freedom
Multiple R-squared	0.9428	0.9861	0.9687

1	*2*	*3*	*4*
Adjusted R-squared	0.9338	0.9839	0.9638
F-statistic	104.7 on 42 and 267 DF	439.5 on 43 and 266 DF	196.6 on 42 and 267 DF
P-value	< 0.00000000000000022	< 0.00000000000000022	< 0.00000000000000022

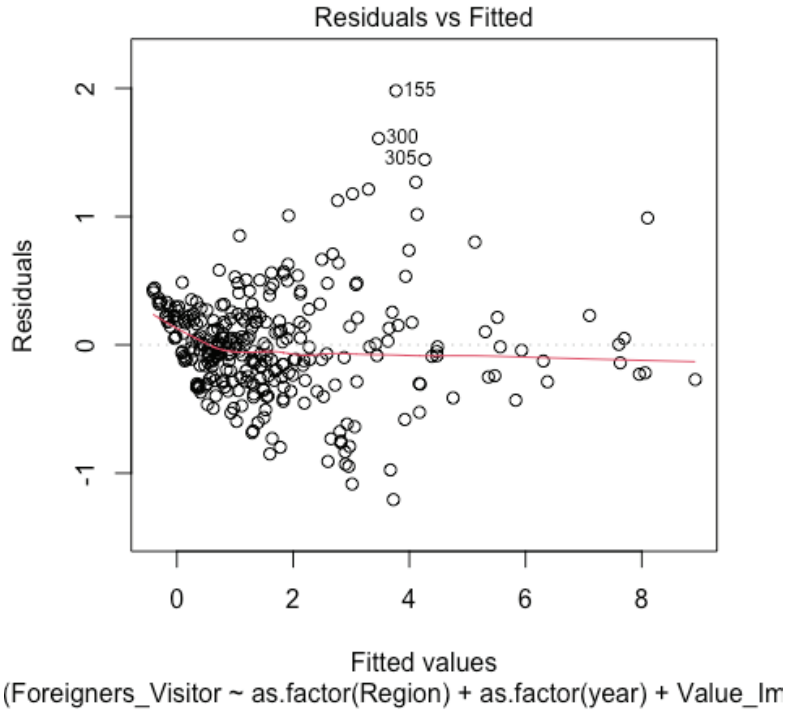

Figure 11. Foreign visitors final model residuals vs. fits plot

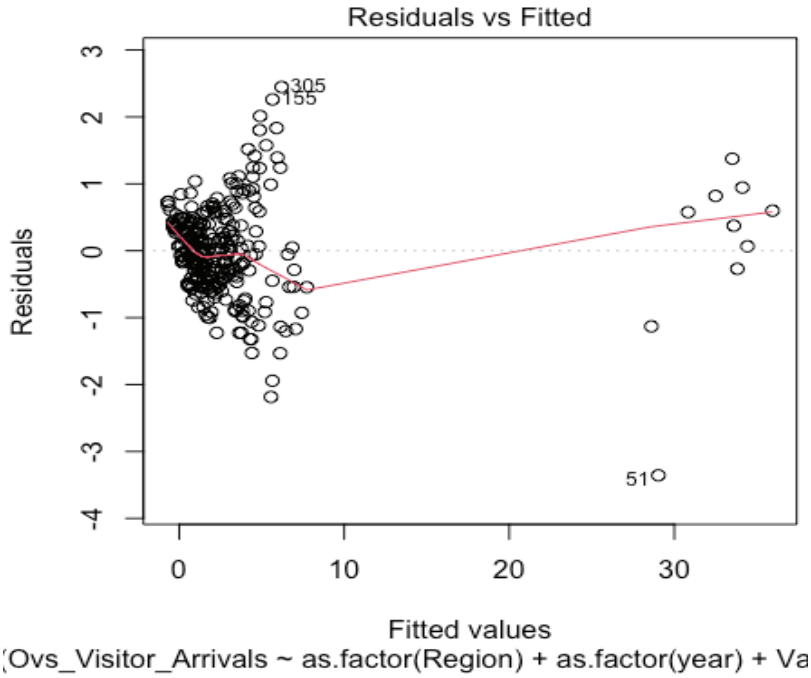

Figure 12. Oversea visitor arrivals final model residuals vs. fits plot

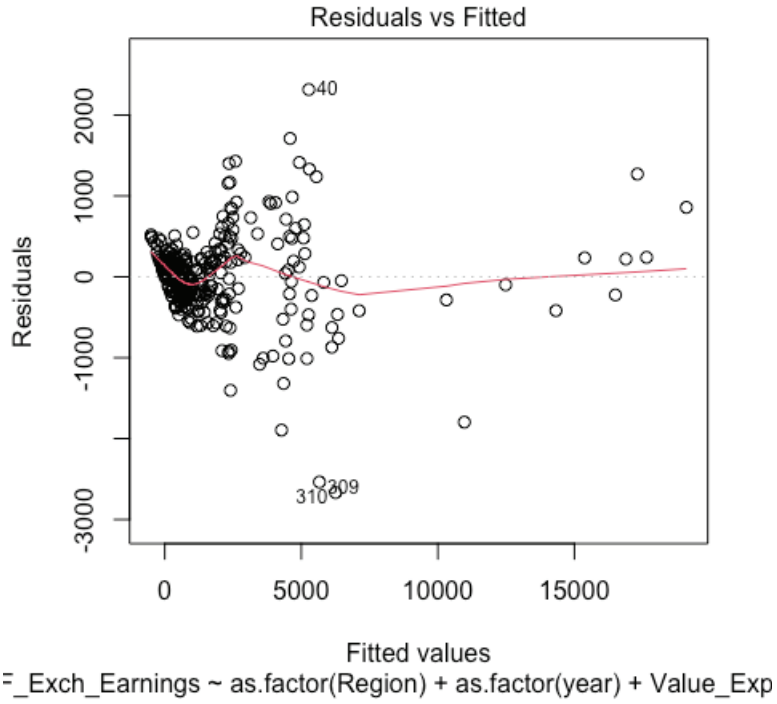

Figure 13. Foreign exchange earnings final model residuals vs. fits plot

4. Conclusion

Both international trade and international tourism have been on the rise over the past decade. All measures are highly correlated with each other. Four variables are strongly associated with international tourism. Three are positively associated: total value of imports and exports commodities and number of foreign funded enterprises. The registered capital of foreign funded enterprises is negatively associated.

Both imports and exports are positively associated tourism outcomes. Results are consistent with findings in Thailand, which is also a major tourist destination in the region. According to one study of Thailand, the degree of trade openness was positively correlated with the country's international tourism demand [1].

Other countries that had similar findings include but are not limited to the following: Malaysia [10], Portugal [11], Romania [12]. Therefore, it is recommended that the government deliver a policy that promotes both imports and exports.

The negative association between Registered Capital of Foreign Funded Enterprises and tourism outcomes may be explained by the relationship between the trade variables. For example, the larger number of Enterprises the more tourists attracted, and the larger number of Enterprises the more capital of Enterprises. However, the former relationship is much stronger than the latter, so that the relationship between capital and tourist's attraction became negative.

Theories that connect international trade and international tourism include the following: [1]

- International trade boosts business travel and contributes to networking at the individual, business, and national levels.
- International trade promotes product advertisements that attract consumers' attention, which creates awareness of both a product and its country of origin. This may stimulate the desire to travel to the home country of that product.
- International trade encourages a country to improve essential infrastructure in order to facilitate related trade activities, for example, transportation and communication systems.

The improvement of infrastructure, in turn, helps attract more tourists.

Moreover, The Thailand study found that countries having a high trade value with Thailand tend to have a high number of tourists visiting the country [1]. Future studies in China can explore this area.

Compared to Beijing, most other regions have lower tourism indices of foreign visitors and foreign exchange earnings from International tourism. This is not the case for the number of oversea visitor arrivals, however. This may suggest that there can be a different pattern between the number of foreign visitors and the number of oversea visitor arrivals.

Yunnan Province seems to be higher than Beijing in all three tourism indices. This is not surprising, as tourism is very developed in Yunnan Province. These results can be supportive of the Chinese government policies/strategies that aim to enhance the country's foreign trade volume as well as to promote international tourism.

5. Discussion

The positive correlation can be found in many countries [13]. The expansion of international tourism boosts the revenue of the economy, creates millions of jobs, improve the infrastructures of the country, and cultivates a sense of cultural exchange between foreigners and citizens. A good economic situation is a basic need for the development of international trade. For example, Thailand is a major tourist destination [14]. In 2015, the international tourism revenue of Thailand accounted for nearly 5.8% GDP of the country, and tourism contributes to the economic growth of the service sector of international trade. The countries that have trading relations with Thailand, such as Japan, China, the United States, and Singapore all tend to have a large number of tourists visiting Thailand.

After the deliberate and precise analysis, the International trade and international tourism indeed have a strong relationship. The total value of imported commodities, the total value of exported commodities, and the number of foreign-funded enterprises are positively associated with international tourism. These results can help the Chinese government to develop strategies and policies focused on tourism to improve trade with foreign countries. Eventually, the development of international trade and international tourism will benefit the county's economic condition.

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