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Analysis of Poverty Determinant in West Java Province

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Analysis of Poverty Determinant in West Java Province

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Abstract

Comprehensive profiling of impoverished households plays a fundamental role in enabling the government to compose quintessential and antipoverty policies that effectively lower poverty on a significant level. This study analyzes household assets and poverty reduction policies as one of the determinant factors of poverty. This research is based on data cumulated from a national socio-economic household survey (susenas) in 2010 as well as logistic regression model to identify factors proximately associated with poverty level in Province, regency and City in West Java. The number of observations as much as 20,541 households. Upon comprehensively evaluating samples, the outcome of the research shows that West Java is facing complex issues related to poverty. All determinant factors including demographic, economy, social and government policies are identified as significantly impact on poverty rate in the region. At all province, city and regency level, size of household member and assets variables are found to be the factors that consistently and significantly determining poverty rate. At the province level, the high probability of poverty is triggered among other by the large size of households' members, family head is married and/or employed in agriculture sector or work as laborers and having low education level as well as living at house with the ground floor/bamboo. Results of regression analyses conducted in respective sample cities/regencies nevertheless illustrates that the level of influence on poverty level vary accordingly. While Tasikmalaya city and Sukabumi regency are facing more complex poverty issues to address, cause of poverty in Kuningan and Majalengka regency are identified as exactly the same.

JEL Classifications: I32, D1, C25

Keywords: Poverty Determinant, Household, Logistic Regression Model, West Java

1. Introduction

West Java is one among several provinces in Java Island with a relatively high poverty rate. Although the province's per capita-poverty rate saw a decline from 2001 to 2011, around 12.02% of residents continue to live in poverty each year. Moreover, up to 4.7 million povertystricken people were reportedly living in West Java in 2010, the third-highest in the nation after East Java and Central Java where around 5.5 million and 5.3 million individuals live in poverty respectively.

Data cumulated from the 2010 national socio economic survey also indicates that the distribution of impoverished households varies by city or regency. Figure 1. shows that among cities/regencies with an impoverished household rate of above 10% are Tasikmalaya, Indra-

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mayu, Kuningan, Cianjur, Cirebon and Bandung city. Tasikmalaya has the highest poverty rate. Simultaneously, among cities/regencies in West Java with the lowest impoverished household rates are Depok, Bandung city, Bekasi city and Bekasi regency at 1.8%, 3.1%, 4.1% and 4.4% respectively.

The characteristics of households and individuals residing in any one household are also determinants of poverty level, as backed by the fact that low education and healthcare households are presented with limited job opportunities. Because such jobs are typically lowpaying, individuals in the household will encounter challenges in achieving an adequate standard of living. Meanwhile, a large household population will also exacerbate burdens borne by the head of household. In such households, higher income is required to uphold or sustain an adequate standard of living. Moreover, a household with no or limited-valued assets do not have sustenance to depend on as supplementary income to attain an adequate standard of living. An individual's incapability to meet the adequate standard of living distinguishes that particular individual or household as impoverished. Poverty is also gender-based research conducted by the International Labor Organization (ILO) 2004, denotes that women are more likely to fall into poverty as compared to their male counterparts. Among reasons for this is that women are often employed as farmers in low-output agricultural fields, receive lower wages compared to men, do not have guaranteed rights over land that they own, are lowly educated, have limited access to healthcare and bear the burden of overseeing the daily affairs of their respective households.

Conditions surrounding an area are also determinants of poverty. Isolated areas are generally more prone to poverty as households in such areas do not possess the required infrastructures to effectively propel economic activity, consequently limiting job opportunities and lowering wages. Meanwhile, government policies also play a significant role in countering poverty – apart from assistance programs, social protection programs for families and community empowerment programs, the government also extends assistance to empower micro, small and medium enterprises (UMKM) which often encounters difficulty in accessing financial services due to failure in meeting banking terms and conditions. The government is an important source in providing financial assistance and opening financial services to fortify the economy and expedite creation of new jobs in various fields as ultimate means of countering poverty.

Facilities such as electrical infrastructures, roads, bridges, water pipes, land distribution, access to public facilities (e.g. distance to schools and hospitals), social structure and social capital are also determinants of poverty level. Limited access to electrical networks will consequently interfere with activities and impact education, healthcare and social aspects in an impoverished household. Poor road conditions will also impact distribution of goods and economic activities, both of which will in turn affect productivity in an impoverished household.

An array of studies has also been conducted to expose determinants of poverty. Geda Mwabu and Kimenyi (2001) investigated determinants of poverty in Kenya and found poverty to be substantially inclined to education, household population and agricultural activity. The study was carried out by assessing household data in 1994, binomial regression model and logit polychotomous. Similarly, Mok, Gan and Sanyal (2007) investigated determinants of poverty in Malaysia and identified human capital as a significant factor in reducing the probability of poverty. Simultaneously, the study also found migrant laborers to be likelier to fall into poverty and that household size, race and religion are also important determinants of poverty in the country. The Figure 1: Poverty Level in Regencies and Cities in West Java

study involves 2,403 households in the city and was carried out from 2004 to 2005.

Haughton & Khandker (2009) attributes poverty to four primary aspects - characteristics of an area, society, household and individual. Area-level characteristics such as isolation, natural resources, weather, natural disasters, local governance and income are determinants of poverty. Society-level characteristics that determine poverty are broken down into infrastructure (roads, water and electricity), services (healthcare and education), relations (capital) and social aspects. Meanwhile, residential and individual-level characteristics such as household size, household dependence ratio, gender of the households head, assets, type and status of employment are also determinants of poverty. Moreover, the household size and characteristics of family members also differ between impoverished and non-impoverished households. Gibson (1999) in Haughton & Khandker (2009) explained that the 1934-1994 Cambodian Socio-Economic Survey indicates that impoverished households are generally made up of large families with an average of 6–7 family members in a household. On the opposite end of the spectrum, the richest households consist of around 4–5 members in a household.

Afandi (2011) from Pariaman, Padang found households with more than 4 members, with less than 8 meters2 of land per capita, with a head of household below 35 years of age, which have taken up a business loan and/or with a head of household employed in sectors other than the agricultural and industrial sector more likely to fall into poverty. Hayati (2012) exposed geographical location and an addition of household member as high-risk poverty factors in cities and regencies in Banten. Sari (2014) found assets, employment and the number of dependents in a household as the primary poverty determinant in Bonang, Demak.

The researches above are based on data, specifically information on the characteristics of households, individuals, area and government policies, cumulated from the 2010 national socio economic survey involving residential households in West Java province. Unlike previous studies, the study takes into account government programs such business loan program as one among several factors which are significantly correlated to poverty level. Logistic regression model to analyze factors that are strongly correlated to and are strong factors of poverty is also utilized.

2. Research Framework

Analyses conducted to identify poverty determinants neither serve to analyze nor arbitrate the cause(s) of poverty. Variables distinguishged based on economic theory are acknowledged as factors that affect poverty level. Such factors, or factors identified as poverty determinants, are determined based on economic theory. Empirical modelling consecutively serves to test out theory. In this research, household, individual and area-level characteristics are evaluated as determinants of poverty level, the two latter of which covers democraphic, economic as well as social factors. Area-level characteristics comprise of local factors and public business loaning policies.

Data is divided into two categories which are data cumulated as a whole from West Java and data of respective cities and regencies in the province. Regression analysis as well as data from West Java serves the purpose of identifying the prevalent cause(s) of poverty in the province. An analysis using both sets of data will also be conducted to exclusively identify the cause(s) of poverty in a specific city or regency in West Java. A second analysis will also be carried out as the poverty level in respective cities and regencies in West Java will likely vary. While the first analysis will more likely accomodate the interests of the central governnment, the second analysis will more likely benefit the local government.

Poverty criteria refers to the poverty line established by the local Central Statistics Bureau (BPS) in any one city or regency. Households with a per capita monthly income below the poverty line are classified as impoverished. The poverty line itself is determined based on minimum household expense which esrimates the approximate earnings of a household. The hypothesis of this research is that the probabibility of poverty are relatively high in households retaining the following characteristics; households with a female head, with more than 3 married family members, with members working in the agricultural sector, with no assets and/or with members working as an employee and not a laborer. Households with social-level characteristics such as low education, illness spanning to over 6 months and households with earthen or bamboo floors are also at high-risk of falling into poverty. Synchronously, regional/area-level characteristics such as living in a city and receiving business loans are also low-risk poverty factors.

3. Illustration of Impoverished Households in West Java

The 2010 national socio-economic survey states that up to 945,172 or 9% of households in 17 provinces and 9 cities in West Java live under the poverty line. With poverty levels of up to 12%, Tasikmalaya, Indramayu, Majalengka and Kuningan possess the highest impoverished household percentage in West Java. Meanwhile, among cities/regencies with the lowest impoverished household rates are Depok, Bandung city, Bekasi city and Bekasi regency at below 5% respectively. The average poverty level in other areas span between 5% to below 11%.

Contratry to beliefs that poverty is exclusively confined to villages, the 2010 national socio-economic survey reveals that impoverished households are almost evenly distributed among villages and cities in West Java province, where up to 505,438 households in villages and 439,735 households in cities are impoverished. The majority of such households are overseen by men.

Based on the classification of household location, the majority of heads of impoverished households live in villages. Moreover, impoverished households in villages and cities also do not differ on a significant scale. Meanwhile, various facilities are available in cities from kindergartens, junior high schools, public high schools, markets, shops, movie theaters, hospitals, hotels, billiard clubs, nightclubs, massage parlors, salons as well as electricity and telephones. While the majority of impoverished households in regencies reside in villages equipped with minimal public facilities, impoverished households in cities are easily able to access public facilities as compared to impoverished village households. The sole exception is Cirebon regency where the majority of impoverished households are located in the city.

Over 72% of household heads are in the productive age (between 20–55 years old). The majority of such heads reside at villages situated in cities as well as regencies. However, the majority of heads of Impoverished households in high-poverty level areas such as Tasikmalaya city, Indramayu regency, Majalengka regency and Kuningan regency are over 55 years of age. Simultaneously, the majority of household heads in low-poverty areas such as Bekasi regency, Bekasi city, Bandung, Cimahi and Depok are in the productive age. Up to 259,887 impoverished households with heads whom are not in the productive age are located in cities and villages throughout West Java, 54% and

Gender	Village	City	Total			
Female	50,37	41,485	91,855			
Male	455,068	398,25	$853,\!318$			
Total	$505,\!438$	439,735	$945,\!173$			
Source: 2010 national socio-economic survey						

Table 1: Gender of Head of Impoverished Households in West Java

Table 2: Age of Head of Impoverished Households in West Java

Age	Village	City	Total
< 20		715	715
20 - < 35	$79,\!699$	$79,\!271$	$158,\!97$
35 - < 45	$153,\!365$	$132,\!351$	285,715
45 - < 55	$131,\!358$	$108,\!654$	240,013
> 55	$141,\!015$	118,743	259,759
Total	$505,\!438$	439,734	$945,\!172$

46% of which are located in cillages and cities respectively.

Impoverished households disbursed throughout cities and villages tend to consist of many members. Around 60% of impoverished households comprise of 3–5 members. Simultaneously, an approximate 29% and 4.2% of impoverished households comprise of 6–8 and 9 or more members respectively. Household size reflects the extent of economic burden borne by the head of households. The majority of impoverished households in clusters 1, 2 and 3 comprise of 3–5 members, with the exception of Bekasi and Depok where the majority of impoverished households comprise of 6–8 members.

Data from the 2010 national socio-economic survey also reveals that 82.6% of impoverished households own their own homes and that the majority of homeowners reside in villages. Meanwhile, 72.6% of the remaining 163,809 impoverished households that do not own their own homes reside in cities, a fact which can be clearly observed in many cities and regencies in West Java. In Bandung, a large percentage of impoverished households are not homeowners. Meanwhile in Bekasi, there are roughly the same number of impoverished households that own their own homes and do not own their own homes respectively.

At 62.4%, a large percentage of impoverished households do not own assets. Merely 355,142 households own assets that are mainly comprised of refrigerators, gas cylinders amounting to 12 kilograms or more and/or boats. Impoverished households frequently rely on assistance from others to purchase food as well as non-food items. While 15% of impoverished households borrow money from relatives, 22.67%, 12.7% and 4.4% borrow from neighbors, use up their savings and borrow from creditors respectively. The remaining percentage acquires loans from banks, cooperative banks or pawn loans. 382 households also rely on other sources to make ends meet. Impoverished households which depend on other sources (outside jobs) are mainly located in Bogor, Sukabuni, Cianjur, Bandung and Tasikmalava.

The educational participation rates of impoverished households is relatively low. Data from the 2010 national socio-economic survey indicates that 9% of household heads have no schooling experience whatsoever. The remaining 91% of household heads are no longer in school. 9.8% of impoverished households are unable to read or write the latin alphabet. Moreover, impoverished households seldom interact with technology. The majority of impoverished household members are also unable to

Household Members	Village	City	Total
≤ 2	46,23	20,532	66,762
3-5	$324,\!819$	$238,\!152$	$562,\!971$
6-8	$124,\!022$	$151,\!539$	$275,\!561$
9-12	9,921	25,764	$35,\!685$
>12	445	3,748	$4,\!193$
Total	$505,\!438$	439,734	945,172

Table 3: Size of Impoverished Households

Table 4: Number of Impoverished Households by Home Ownership

Home Ownership Status	Village	City	Total
Privately Owned	460,538	320,825	781,363
Others	$44,\!900.2$	$118,\!909$	$163,\!809$
Total	$505,\!438$	439,734	$945,\!172$

access the intenet. Merely 0.48% of impoverished household members have accessed the internet in the past three months.

93% of heads of impoverished households who have schooling experience are also lowly educated. The highest education level that was pursued or is currently being pursued by is basic elementary or junior high school education or equivalent. A substantial percentage of such individuals deliberately chose to end their schooling. Around 26% of impoverished households also do not hold elementary school certification.

Lowly educated households are disbursed evenly throughout cities and regencies. In Depok, the percentage of lowly and highly educated households are essentially equivalent. A relatively large number of impoverished households in Depok therefore holds more than a basic educational certificate.

As many as 314,192 or 33.2% of heads of impoverished households were sick in the past month. The majority of symptoms and medical conditions reported, including accidents, measles, ear discharge and jaundice, are considered severe. Among other frequently reported ailments are cough, cold or flu (influenza) and chronic headaches. Despite this, merely 43.7% of impoverished households seek medical attention to recover. Medical conditions and sickness are found to impact the daily activities in a household. The work and school of 55.3% of household heads were affected by medical conditions and sickness. Despite this, not all households choose to go to the doctor and merely 88.5% of households sought medical attention to recover. Meanwhile, 44.67% of households claiming that illness do not impact their activities choose to disregard medical treatment. This is likely due to economic demands obliging households to continue working.

833,706 impoverished households are currently employed in four fields which are agriculture, mining, trade and services. Agriculturerelated jobs comprise of rice and vegetable farming as well as jobs in the horticulture, plantation, fishing, cattle farming, forestry and other plantation-associated sectors.

Meanwhile, mining-related jobs revolve around mining and excavation, the processing industry as well as the electricity and gas sector. In the trade sector, jobs are correlated to construction/development, trade and the hospitality and food industry. Services-oriented jobs include transportation and warehousing, information and construction, insurance and financing as well as healthcare and educational services. The trade and agricultural sector are the primary recruiters of members of

Type of Asset	Count
Bicycle	$154,\!046$
Motorcycle	$122,\!049$
Boat	2,242.37
Motor Boat	462
Refrigerator	58,122.4
Gas Cylinder (≥ 12 kg)	18.220,20
Others	590,03
Total	$945,\!172$

Table 5: Types of Assets Owned by Impoverished Households

Table 6: Educational Participation of Impoverished Households

Educational Participation	Village	City	Total
No/Have Yet to Gain Schooling Experience	$54,\!117$	32.749	86,865
Active in School	-	-	-
No Longer in School	$451,\!321$	406,986	858,307
Total	$505,\!438$	439,734	$945,\!172$

impoverished households.

Up to 11.8% of impoverished households are also unemployed. The daily activities of members of such households include managing daily affairs in the household, exercising, attending courses and picnics and social activities such as participating in organizations and doing social work. The percentage of unemployed and impoverished households is also higher in highpoverty level cities such as Majalengka regency as well as Sukabumi and Cimahi. Meanwhile, the majority of impoverished households in regencies work for the agricultural sector. On the other end of the spectrum, impoverished households in cities tend to work for the services, construction and trade sector as concluded based on observations made at Bogor, Sukabumi, Cirebon and Bekasi. The employment status of employed impoverished households is broken down into freelancers (34.5%), self-employed (22.5%), workers/employee/staff (20.5%) and employers with unpaid workers (20%).

With regard to paying off medical bills, only a small percentage of impoverished households have access to insurance. Over 50% of impoverished households have yet to receive insurance coverage. Furthermore, 35.7% of impoverished households are registered members of the healthcare insurance for the poor (JPK MM), healthcare card (*kartu sehat*), healthcare insurance for poor families (JPK Gakin), poverty card (*kartu miskin*) and social health insurance program. 1.8%, 0.65% and 0.58% of impoverished households receive healthcare insurance from jamsostek (social security program), other healthcare insurance programs and healthcare insurance for civil servants/veterans/pensioners respectively.

Compared to the allocation of business loans to non-poor households, loan provided to the impoverished household is still very small. Of a total 996,877 households receiving impoverished business credit, 96.3% of them are classified as non-poor households and the remaining 3.67% is considered as improverished households. Sumedang, Tasikmalaya, Sukabumi and Garut are identified as regencies that distribute more loans for impoverished households. At the city level, most business loans recipients are identified living in Tasikmalaya, Bandung and Banjar.

Symptom/Medical Condition	Village	City	Total
Fever	3,562	4,68	8,242
Cough	15,762	$14,\!999$	30,761
Cold/Flu	32,969	36,006	68,975
Asthma/Rapid Breathing/Breathing Difficulty	$7,\!623$	$7,\!549$	$15,\!172$
Diarrhea	$5,\!244$	3,228	8,472
Chronic Headache	21,952	17,78	39,732
Toothache	6,936	9,364	16,3
Others*	$68,\!912$	$57,\!627$	$126{,}539$
Total	$162,\!958$	$151,\!233$	$314,\!192$

Table 7: Symptoms/Medical Conditions Reported in the Past Month

Tab.	le 8:	Employed	Impoverished	Households
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Employment Field	Count
Agriculture	381,509
Mining	$93,\!111$
Trade	$203,\!878$
Services	$155,\!208$
Total	833,706

4. Data & Research Methods

4.1. Data

This study takes into account data from the 2010 national socio-economic survey involving residential households in West Java. The survev published by the Central Statistics Agency (BPS) comprises of 20,541 households spanning across 10 cities and 16 regencies. The survey also comprises of individual-level and household-level data. Household-level data sets in the survey were constructed by compiling individual-level data sets. This was done so as a number of household-associated information is encompassed in individual data. New data sets were subsequently created by compiling information on the characteristics of 20,541 households in West Java. Based on accumulated data, 945 households were found to be impoverished. 172 observations were conducted in 64% of all households.

Household characteristics comprise of demographics as well as economic and social aspects. Demographic aspects comprise of gender type, household size and marital status. Economic aspects are represented by the employment field, employment status, assets and financial security of the highest earner in the household. Social aspects comprise of education level, healthcare and area of residence. Area-level characteristics are observable by the conditions of any one specific area (village or city) and government policies, the latter of which pinpoints to anti-poverty policies in the form of disbursing business loans. The business loan program comprises of the national independent society empowerment program as well as other government sponsored programs, people's business loan program and banking programs outside cooperation banking programs and the people's business loan program (KUR).

4.2. Model

The type of empirical model used in this research is the logistic regression model where the dependent variable is a binary variable either valued '1' if the household is impoverished or '0' for other categories. The independent variable consists of a binary and continuous variable, where P_i is the i^{th} household probability existing below the poverty line. P_i is a bernouli variable and its distribution is correlated to inDjamaluddin, S./Analysis of Poverty Determinant...

Table 9: Insurance Financing/Healthcare Insurance of Impoverished Households

	Insurance Financing/Healthcare Insurance	Count
a.	Healthcare Insurance for Civil Servants/Veterans/Pensioners	5,521.56
b.	Social Security Program - Healthcare Insurance (Jamsostek)	$17,\!031.9$
c.	Private Health Insurance	2,970.05
d.	Company Reimbursement	$3,\!844.9$
e.	Healthcare Insurance for the Poor (JPK MM) / Healthcare Card (Kartu Sehat) /	337, 316
	Healthcare Insurance for Poor Families (JPK Gakin) / Poverty Card (Kartu Miskin /	
	Social Healthcare Insurance (Jamkesmas)	
f.	Healthcare Funding	3,722.47
g.	Other Healthcare Insurance Programs	$6,\!175.37$
h.	Others	568, 59
	Total	945,172

dependent vector X. Therefore:

$$P_i(X) = \frac{e^{\alpha + \beta X}}{1 + e^{\alpha + \beta X}} \tag{1}$$

Similarity (1) is a cumulative logistic distribution function. The function above (1) is nonlinear but can be lineated by re-writing the function:

$$\frac{P_i}{(1-P_i)} = e^{\alpha + \beta X} \tag{2}$$

The odd ratio, or $\frac{P_i}{1-P_i}$, is obtained from impoverished households and explains the probability ratio of impoverished versus non-impoverished households. The similarity (2) can be rewritten in its natural logarithm form as:

$$ln\frac{P_i}{1-P_i} = \alpha + \Sigma_k \beta_k X_{ki} \tag{3}$$

This form (3) is also referred to as the logit model. $ln \frac{P_i}{(1-P_i)}$ is a natural logarithm acquired from the odd ratio of impoverished households below the poverty line. The similarity (3) is estimated using the maximum likelihood method.

Demographic variables

Male = '1' if the household head is a man, '0' for others

Household size = Number of members in a household

Marital status = '1' if the household head is married, '0' for others

Economic variables

Agriculture = '1' if the household works for the horticulture, plantation, fishing, cattle farming, forestry or plantation sector, '0' for others

Laborer/worker = '1' if the household member(s) is a laborer/worker, '0' for others

Asset = '1' if the household owns a bicycle, motorcycle, boat, motorboat, refrigerator or a gas cylinder with a capacity of 12 kilograms or above, '0' for others

Social variables

Basic education = '1' if the household either holds elementary school certification or do not hold an educational certificate, '0' for others Healthcare = '1' if the household has sought medical attention in the past six months, '0' for others

Home flooring = '1' if the household has either earthen or bamboo flooring, '0' for others

Regional/Area variables

Area of residence = '1' for city, '0' for others Loan programs = '1' if the household accepts business loans from the people's business (KUR) program and/or the national independent society empowerment program and/or other banking programs exclusive of the KUR program and other programs held by cooperation banks, '0' for others

5. Outcome of Research

The research's outcome is that the poverty level in West Java is significantly influenced by demographic, economic and social factors as well as area-level classification and government policies. The government's 'rice for the poor' program is also presented as the most effective approach in lowering poverty as the program's benefits are directly enjoyed by impoverished households. Other factors which significantly influence poverty level is household size, marital status, employment in the agricultural sector, low education and household-level characteristics.

5.1. Demographic Variables

Provincial-level data identified men as the primary breadwinners in impoverished households. Data from the national socio-economic survey indicates that 90% of impoverished households are headed by men with a median salary of Rp196,874. Meanwhile, results of the regression analysis indicate that a household headed by a man is only 36.5% at risk of falling into poverty. The research also identified women as relatively significant contributors toward household finances. Working female heads of households earn an average of Rp190,133 per capita.

Meanwhile, facts prove otherwise in the majority (76.5%) of regencies and cities. In a regency and city level, having male household heads do not impact household poverty (with the exception of regencies Sukabumi, Ciamis, Purwakarta and Indramayu). Facts cumulated also shows that both men and women impact the household in a relatively equal sense. Meanwhile, male household heads in cities significantly impact the poverty level of households in different ways. In Bandung, households headed by males are highly vulnerable and are 89.8%likely to fall into poverty. In Cirebon, Cimahi, Tasikmalaya and Banjar, the probability of poverty of households headed by males is relatively low, or below 30%.

In conclusion, the probability of poverty increases as household size expands. This is because households are required to meet higher basic living requirements with every addition to the household. Furthermore, the probability of poverty in an average household (comprising of 5 members) is relatively high at 62.2%. Observations conducted in two regencies also came up with the same findings on the relationship between household size and probability of poverty. In cities and regencies, household size significantly impacts poverty with a probability of poverty of over 60%. Meanwhile, marital status is not a significant determinant of poverty in all regencies with the exception of several regency and cities (Regency of Sukabumi and Ciamis and City of Cimahi, Bogor, Tasikmalaya and Cirebon).

The conclusion above is in line with a discovery exposing the relatively high probability of poverty in married households (63.4%) as marriage is associated with the addition of a family member(s). Facts cumulated from cities and regencies nevertheless indicate that marital status does not influence probability of poverty. On a regency level, marriage is a significant influence of poverty in Sukabumi and Ciamis where probability of poverty of married households is well over 80%. Simultaneously in cities, marriage significantly influences poverty only in Cirebon, Cimahi dan Tasikmalya where probability of poverty in married households is above 70%.

5.2. Economic Variables

In line with the hypothesis, economic factors significantly influence the probability of poverty of households. Merely 1,572 or 7.65% out of a total 20,451 impoverished households receive a salary of Rp196,433 per capita. Employment by the agriculture industry is also exposed as the most influential determinant of poverty level with a 61.7% probability of poverty percentage. This is so because households employed by the agriculture industry

Variable	Odd Ratio	Standard Error	P > Z
Demographic Variable			
Male	0.57725410	0,114161	0.0050
Household Size	167.744.400	0.035795	0.0000
Marital Status	173.206.500	0.33791	0.0050
Economic Variable			
Agriculture	161.382.200	0,113317	0.0000
Laborer/worker	117.360.700	0.073137	0.0100
Asset	0.33071560	0.022405	0.0000
Social Variable			
Basic Education	207.719.800	0.187528	0.0000
Healthcare	0.85995510	0.062326	0.0370
Home Flooring	199.574.700	0.168248	0.0000
Area Variable			
Area of Residence	0.58391270	0.039888	0.0000
Loan Program	0.44401490	0.061937	0.0000
Constant	0.01127660	0.001784	0.0000

Table 10: Result of Estimation of Logistic Regression Model at Province Level

receive lower wages compared to other emploment fields. At Rp189,521.30, the average per-capita salary of households employed by the agriculture sector is lower than the average per-capita salary of inpoverished households (Rp201,128.6) employed by other sectors and industries. Meanwhile in cities, jobs in the agriculture industry is relatively limited and is therefore not a significant determinant of poverty in cities other than Bandung and Tasikmalaya where the average probability of poverty is over 60%.

Employment as a laborer is also a determinant of poverty in households. In a provincial level, the probability of poverty in households headed by a laborer is also relatively high at 54%, a phenomenon likely due to the fact that laborers and non-laborers are paid roughly the same as shown by the average per-capita monthly income of laborers and non-laborers at Rp194,388.6 and Rp199,148.5 respectively.

Meanwhile, employment status is not a significant determinant of poverty level in cities and regencies with the exception of regencies Sukabumi, Garut, Karawang and West Bandung. Many workers/laborers are hired in Karawang, an industrial zone. The average per-capita income of impoverished workers/laborers is Rp210,030 or lower compared to the average income of individuals with other employment statuses (Rp222,469.6). In Sukabumi, Garut and West Bandung, the probability of poverty of households with laborers/workers is relatively high at above 60%. Meanwhile in Karawang, the probability of poverty of the same type of household is considered low at 36%.

As a financial reserve, assets play an important role in lowering the probability of poverty of households. Results of the research indicate that households with assets are less likely to fall into poverty (24.8%) and that the more assets owned by a particular household, the less likely that household is likely to fall into poverty. Furthermore, data from the national socio-economic survey indicates that 62.4% or the majority of impoverished households do not own assets and that the remaining 355,142 impoverished households own relatively lowvalued assets. The majority of assets owned by impoverished households are bicycles.

Inter-area observations also identified households with low-valued assets to be likelier to fall into poverty. Similar conclusions were made in observations conducted on a provincial, city and regency level (with the exception of regencies Cirebon and Indramayu). Simultaneously, the average probability of poverty for house-holds with assets is low (20%). Results are in line with the proposed hypothesis.

5.3. Social Variables

Education level also impacts the probability of poverty of households on a substantial scale. Outcome of the research indicates that lowly educated households are 67.5% likely to fall into poverty, seeing that education plays an important role in raising employee value. A lowly educated household is not only limited to certain jobs but will also be likely to earn a relatively low salary. Data from the 2010 national socio-economic survey shows that at Rp194,634, the average per-capita monthly income of lowly educated impoverished households is lower than the per-capita income of households holding an educational certification above the primary/elementary level at Rp208,747 per month.

Furthermore, the impact of education level on poverty varies among different cities and regencies. Data cumulated from the majority of areas on a regency level indicates that low education does not influence the poverty level and that merely 30% of areas reported of a high probability poverty percentage (above 65%) in lowly educated households. Once again, results are in line with the proposed hypothesis. Meanwhile, education level plays a significant role in over 60% of cities. Lowly educated households are found to be over 70% likely to fall into poverty.

A healthy household head capable of working optimally is also likelier to receive a higher income. Meanwhile, the probability of poverty of households which sought medical attention at least once in the past six months is 46%. The average per-capita monthly income of a healthy impoverished household is Rp199,693 or more or less the same as the average percapita monthly income of households that seek medical attention at least once each month or year (Rp195,632), an interesting fact indicating that impoverished households with different health conditions receive roughly the same income. This particular fact also reflects that the productivity of impoverished households remain relatively stagnant.

The impact of healthcare on poverty also varies on a provincial-level and city and regency-level. Bandung, Depok and Tasikmalaya are the only three cities where healthcare is a significant determinant of poverty. In Bandung, households that sought medical attention at least once in the past six months is only 20% likely to fall in poverty, unlike Depok and Tasikmalaya where probability of poverty in households with the same circumstances are significantly high at over 60%. Results are in line with the proposed hypothesis. Meanwhile on a regency level, the probability of poverty of households that sought medical attention at least once in the past six months in Sukabumi, Tasikmalaya and Karawang is relatively low. Simultaneously, the probability of poverty of households that sought medical attention at least once in the past six months in West Bandung regency is relatively high at 66.6%.

Data from the 2010 national socio-economic survey also indicates that 173,193 households have earthen or bamboo flooring and that the number of such households varies significantly among different cities and regencies. A noticeable relationship between area of residence and poverty level was also observed at regencies Bandung, Garut, Indramayu, Subang, Purwakarta, Karawang, Bekasi and West Bandung where the average probability of poverty is relatively high at 75% (with exception of West Bandung at below 1%). The probability of poverty for the same variable in cities Sukabumi and Tasikmalaya is also high at almost 70%.

5.4. Regional/Area Variables

Cities generally offer many alternative jobs and job opportunities. It is hence an unsurprising fact that the probability of poverty of households in cities is relatively low at 36.8%. Impoverished households working and living in cities earn an average monthly per-capita salary of Rp205,260, or higher than the average monthly per-capita salary of impoverished households in villages at Rp189,473.

The relationship between area classification and poverty is significant in all but five regencies which are Sumedang, Subang, Karawang, Bekasi and West Bandung. Compared to households living in regencies areas, those living in city hve lower poverty probabilty rate of around 46%. Meanwhile, administrative cities (kota administrasi) generally do not contain an area classified as a village. Consequently, the effect of classification of areas is not reflected in this study.

Government policies play a relatively significant role in countering poverty. However, the level of influence proves to be different from the proposed hypothesis. The probability of poverty of households that receive business loans is relatively low at 30.7%, a fact which is in line with the proposed hypothesis. Research also indicates that 5.5% of impoverished households and 10.6% of non-impoverished households are recipients of business loans. In cities, however, business loans do not significantly influence poverty and that business loans only significantly impact poverty in regencies Bogor, Bandung, Indramayu, Subang and Purwakarta. The probability of poverty in households that receive business loans is also relatively low at below 26%.

6. Characteristics of Inter-Area Poverty

The inter-area poverty determinant analysis indicates that the characteristics of poverty vary among different areas. The dimension and complexity of poverty in a regency level especially vary. Compared to other regencies and cities, Sukabumi regency is facing a more complex poverty issues with at least 10 factors substantially influence poverty in need to address. The factors are identified as gender of household heads, household size, marital status, employment in the agricultural industry, employment status as worker/laborer, asset, low education, healthcare, area classification and business loan. Among other regencies/cities with a high number of poverty determinants are regencies Bandung, Garut and West Bandung with 7, 8 and 7 poverty determinants respectively. Poverty determinants in Bandung are identified as household size, employment in the agricultural industry, employment status as workers/laborers, asset, low education, home flooring, area classification and loan programs. Meanwhile, poverty determinants in Bandung and Garut are the same with the exception of employment status as workers/laborers which is a poverty determinant in Garut but not in Bandung.

Meanwhile, the characteristics of poverty in Purwakarta and Karawang vary from other areas. The six poverty determinants in Purwakarta are identified as gender of household head, household size, assets, household-level characteristics, area classification and loan program. Simultaneously in Karawang, poverty determinants are identified as household size, employment in the agriculture industry, marital status, asset, healthcare and householdlevel characteristics.

The problem of poverty is considered simpler in regencies Kuningan, Cirebon, Majalengka and Sumedang. There are only three determinants of poverty were identified in each of the four regencies, or household size, employment field and area characteristics in Cirebon. The determinants of poverty in Kuningan and Majalengka are the same – household size, assets and area classification. Meanwhile, the determinants of poverty in regencies Subang and Bekasi are roughly the same, with the exception of business loans as a significant determiner of poverty in Subang but not Bekasi. Similarly, the determinants of poverty in regencies Majalengka and Subang are also more or less the same, with the difference being area classification which is a significant determinant in the former but not the latter.

The characteristics of poverty in Cianjur is roughly the same as that in Kuningan and Cirebon, with the primary difference being employment by the agriculture industry which is a significant poverty determinant in Cianjur but not Cirebon.

Meanwhile on a city-level, the question of poverty is the most complex in Tasikmalaya where 9 determinants of poverty were identified. The determinants of poverty in Tasikmalaya are gender of household head, household size, marital status, employment by the agriculture industry, employment status as a worker/laborer, asset, low education, healthcare and home flooring.

5 and 6 poverty determinants were identified respectively in Bandung and Cirebon and that both cities more or less have the same poverty determinants with the difference being business field and healthcare as significant poverty determinants in Bandung but not Cirebon. Simultaneously, marital status is also a significant determinant of poverty in Cirebon but not Bandung. The four poverty determinants in both cities are gender of household heads, size, asset and low education.

Unlike the cities mentioned above, the question of poverty is relatively simpler in remaining cities. Three determinants of poverty are identified in cities Bekasi, Depok and Banjar, with similar poverty determinants being household size and asset. The difference is that low eduction, healthcare and asset is a significant determinant in Bekasi, Depok and Banjar respectively.

Meanwhile, the determinants of poverty in Banjar is also more or less the same as that in Cimahi, with the difference being marital status as a significant determinant of poverty in Cimahi but not in Banjar. Simultaneously, the determinants of poverty in Sukabumi is also more or less the same as that in Bekasi, with the difference being household-level characteristics as a significant determinant of poverty in Sukabumi but not in Bekasi.

7. Conclusion

The determinants of poverty vary among different cities and regencies in West Java. Based on observations to measure the significance of each determinant of poverty conducted through the regression model, household size and assets are the primary determinants of poverty in cities and regencies in West Java. At province, city and regency level, the size of households members are identified as among the major factors which can cause higher probability of poverty. Meanwhile, ownership of assets is the factor that causes low probability of poverty in regencies and cities. The problems of poverty is most complex in Sukabumi regency and Tasikmalaya city where 10 and 9 significant determinants of poverty were identified respectively. Several regencies and cities also possed the same or similar types of poverty determinants.

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Regencies	Jenis Ke- lamin	Number of house- hold member	Marital Status	Agriculture Sector	Employment Status	Asset	Education Level	Healthcare	Home flooring	Region	Loan Pro- gram	Constant
bogor Regency Sukabumi Regency Cianjur Regency Bandum Regency Garut Regency Tasikmalaya Regency Vianin Regency Kuningan Regency Cirebon Regency Cirebon Regency	0.236577* 0.236577* 0.382315 0.765621 218,499 0.7170032 0.065124* 1.001.637	1.8245951 1.834456 1.834426 1.722832* 1.823873* 2.221533* 1.815672* 1.815672* 1.851758* 2.148064*	1.205.129 1.132641* 2.454.236 1.0538613 107.747 6.922637** 1.207.362 1.207.362 1.207.362	2.050.22 1.695917* 1.695917* 1.526897** 2.075793* 1.539.088 1.302.704 1.557.173 1.557.173	1.211.012 1.714211^{**} 1.714211^{**} 0.882666 2.995907^{*} 1.624.813 1.488.489 0.950534 0.950534 0.784996	0.091241 0.251836* 0.251836* 0.264305* 0.327173* 0.327173* 0.148756* 0.188556* 0.188556* 0.226914* 0.226914*	1.833800 1.814.018 2.202379** 2.885.114 2.885.114 0.709425 1.203.738 1.665.574	0.395/202 0.396354** 1.586.127 1.107.587 1.021.137 0.314041* 0.607737 0.607737 0.758737	1.45.549 1.081.267 1.193.602 2.895.258 3.845610* 1.645.738 1.15.209 1.168.388 1.168.388	0.0310(4 0.098407* 0.0198407* 0.498794* 0.444598* 0.444598* 0.351413* 0.31337* 0.231337* 0.231337*	0.15/050 1.514.111 1.514.111 0.30146 0.190220* 0.305863 0.305863 0.199975 0.942979 0.533986 0.533986	$\begin{array}{c} 0.001092\\ 0.001091\\ 0.007284\\ 0.001284\\ 0.001284\\ 0.00745\\ 0.073657\\ 0.017403\\ 0.017403\\ 0.006226\end{array}$
Sumedang Regency Indramayu Regency Subang Regency Purwakarta Regency Karawang Regency Beakai Regency Bandung Barat Regency Bogor City Susabumi City	1.953.832 0.309453* 0.526128 0.578078* 0.779635 1.474.724 0.435954 0.435954 2.769.698 8 2.769.698	2.634441* 1.987360* 1.613139* 1.613139* 1.669200* 1.735525* 1.305749* 1.305749* 1.854577* 1.854577* 1.854577* 1.854577* 1.7737*	0.527951 1.430.848 1.160.049 1.209.947 1.137.565 1.137.565 1.701.864 1.064.433 4.136970* 0.331354 0.131354	$\begin{array}{c} 104.698\\ 1.163.897\\ 1.875725 \\ 1.875725 \\ 1.653.559\\ 4.053968 \\ 3.050276 \\ 2.185627 \\ 1.209.834\\ 1.209.834\\ 1.1616164 \end{array}$	$\begin{array}{c} 1.346.827\\ 1.289.612\\ 0.878696\\ 1.104.465\\ 0.568573*\\ 0.701257\\ 2.375589^*\\ 0.814439\\ 0.814439\\ 1.466\\ 0.813879\\ 1.466\\ 0.838379\\ 1.466\\ 0.818879\\ 1.466\\ 0.818879\\ 0.818879\\ 0.818879\\ 0.8188879\\ 0.8188889\\ 0.8188889\\ 0.8188889\\ 0.8188889\\ 0.8188889\\ 0.8188889\\ 0.8188889\\ 0.8188888\\ 0.8188889\\ 0.8188888\\ 0.818888\\ 0.81888\\ 0.8188888\\ 0.818888\\ 0.818888\\ 0.818888\\ 0.818888\\ 0.818888\\ 0.818888\\ 0.818888\\ 0.818888\\ 0.818888\\ 0.818888\\ 0.818888\\ 0.818888\\ 0.818888\\ 0.818888\\ 0.8188888\\ 0.818888\\ 0.818888\\ 0.818888\\ 0.818888\\ 0.8188888\\ 0.8188888\\ 0.8188888\\ 0.8188888\\ 0.8188888\\ 0.8188888\\ 0.8188888\\ 0.8188888\\ 0.8188888\\ 0.8188888\\ 0.8188888\\ 0.8188888\\ 0.8188888\\ 0.8188888\\ 0.81888888\\ 0.8188888\\ 0.8188888\\ 0.8188888\\ 0.8188888\\ 0.8188888\\ 0.818888888\\ 0.8188888888\\ 0.81888888888\\ 0.818888888\\ 0.8188888\\ 0.8188888\\ 0.8188$	0.149374* 0.59923 0.347881* 0.381328* 0.383229* 0.439070** 0.169776* 0.169776* 0.183124*	4.711060* 128.219 1.33.527 1.482.134 1.482.134 154.628 2.127297** 2.715469* 5.512849*	$\begin{array}{c} 1.274.958\\ 1.176.667\\ 0.820916\\ 0.53582\\ 0.632582\\ 0.409991*\\ 0.724205\\ 2.071138*\\ 1.590.986\\ 1.590.386\\ 0.754705\\ 0.754705\end{array}$	0.679188 3.109277* 1.822830** 6.432866 6.4813286 6.481388 6.481388 0.093948* 0.093948* 0.093948* 1.192470*	0.617471 0.656437** 0.848445 0.397950* 0.924471 0.91084 1.095.583 -	0.772579 0.338652* 0.117441** 0.117441** 0.321936 1.076.809 1.512.033 0.922448 0.922448	0.001449 0.022293 0.023976 0.028577 0.005843 0.005843 0.003983 0.003983 0.001116
Bandung Cuy Cirebonn City Bekasi City Depok City Cimahi City Tasikmalaya City Banjar City	8.890/20* 0.167052* 1 0.368729** 0.434071* 0.350727*	2.041/32 2.215539* 2.199190* 2.053641* 1.571666* 1.571666*	$\begin{array}{c} 0.513000\\ 7.318382 *\\ 1 & 1\\ 0.170693\\ 6.274683 *\\ 2.563564 *\\ 1.554.637\end{array}$	$\begin{array}{c} 1.110104 \\ 1 \\ 1 \\ 0.285741 \\ 2.213019^{*} \\ 1.345.857 \end{array}$	$\begin{array}{c} 1.486.\circ 9.2\\ 0.637123\\ 0.472957\\ 0.618488\\ 1.071.158\\ 2.168002*\\ 1.247.329\end{array}$	$\begin{array}{c} 0.114202\\ 0.155046\\ 0.150880\\ 0.108909\\ 0.061061\\ 0.423182\\ 0.262313\end{array}$	1.239316 2.638931 1.673.457 1.696.025 5.593050 2.080.121	$\begin{array}{c} 0.273475\\ 1.060.275\\ 3.361596^{**}\\ 0.538717\\ 0.392822^{*}\\ 1.104.855\end{array}$	0.48104 1.544.605 268.266 210.639 3.318.088 5.117238^* 1.915.135	- - 0.306442 0.702142	0.04/814 1.511.021 - 0.822622 0.262728 0.612592	$\begin{array}{c} 0.000102\\ 0.004022\\ 0.005816\\ 0.01148\\ 0.005324\\ 0.029995\\ 0.029426\\ 0.029426\end{array}$

Table 11: Result of Estimation of Logistic Regression Model at Regency Level

*Significant at 5 percent, ** Significant at 10 percent.

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